





## SORTRIDGE COPPER MINING COMPANY, LIMITED.

Capt. Wm. Skewis, of Gunnislake, Clitters, writes under date April 13:—

I have been to the Mine (Sortridge) again to-day, and was exceedingly pleased with the prospects of the lode WEST OF THE CROSS COURSE. The SECOND pit opened on this lode shows that we are NEAR A GREAT DISCOVERY. I wired you this effect to-day, and to-morrow after another inspection I hope to be able to Report on the Great Tin Lodes, as well as the South Copper Lodes. Altogether this is a fine property, and will eventually PROVE ONE OF THE BEST AND MOST PRODUCTIVE Mines in our district. What has hitherto been done here by the former Company is only preliminary to a more extended development of the lodes which are CERTAIN TO PROVE RICH IN THE COURSE OF WORKING, and will redound to the credit of all parties connected with it.

Telegram received from Capt. Wm. Skewis, April 14:—

The Copper Lode improving. The Great Tin Lode north of Copper Lode will, in our opinion, prove the RICHEST in this DISTRICT.

In Capt. Skewis's full report he states that he was informed £80,000 worth of Copper was raised by the Old Company from one lode only east of Cross Course, but from the letter above it will be seen that he considers what has hitherto been done "by the former Company is only preliminary to a more extended development of the lodes which are certain to prove rich."

## SORTRIDGE COPPER MINING COMPANY, LIMITED.

Incorporated under the Companies Acts, with Limited Liability.

IN 40,000 SHARES OF £1 EACH,

Of which 21,000 Shares are issued as fully paid, in purchase of the mine, &c.

On the remaining 19,000 Shares 2s. 6d. per Share to be paid with Application, 5s. per Share on Allotment, and the remainder, as required, or to be paid-up on transferring Shares.

**This Company will have no Royalty to pay until it has sold £60,000 worth of ores, and after that the Royalty will be only 1-20th.**

### DIRECTORS.

J. H. MURCHISON, Esq., F.R.G.S., 8, Austin Friars, London, Chairman of the Devon Friendship Company.

JOHN PETHERICK, Esq., F.R.G.S., late British Consul for the Soudan (Africa), 66, Tavistock Crescent, W.

H. S. STRACHAN, Esq., Copthall Buildings, Throgmorton Street, E.C.

SAML. YORK, Esq., Shifnal, Salop, Director of the Tankerville Great Consols Company.

(The whole of the Directors are among the present proprietors of the mine, &c., and consequently Vendors to the Company.)

Bankers—IMPERIAL BANK, Limited, Lothbury.

Solicitors—Messrs. STACPOOLE AND SON, Pinner's Hall, Old Broad Street, London.

### SECRETARY AND OFFICES.

MR. C. HARRISON SMITH, 8, AUSTIN FRIARS, LONDON.

## PROSPECTUS.

The object of this company is to purchase and work the famous Sortridge Consols Mine (situate about three miles from Tavistock), which about 25 years ago yielded large and profitable returns of rich copper ores, and the shares in which were extensively dealt in at very high prices.

The shaft was sunk to about 150 fathoms, with a view, it is said, of coming to the junction of two lodes, which, however, was never reached, as the sinking was not continued deep enough. It is also believed (see Captain Skewis's Report annexed) that below the deep adit they followed only a branch, or unproductive part of the lode; and that the other portion, which was so productive above, is still untouched in the lower workings. In addition to this, very little was done in driving levels.

The last company obtained their returns altogether from the east side of a cross-course, which crosses the lode, and they did nothing to the west of it; but the lode has now been found there, composed of an exceedingly fine gossan, containing rich copper ore, though only within a few feet of the surface, and there is every indication that large and valuable deposits will be found at a comparatively shallow depth, like those formerly met with under the gossan on the other side of the cross-course, and under similar circumstances, in the original great discovery at Devon Consols, &c.

There are other promising lodes (of both copper and tin) in the sett, particularly a large tin lode, on which there are extensive old workings (the deepest point being only 20 fathoms), and from which the lessor has himself sold about £600 worth during some very limited operations carried on by him in the last few years; but the last company worked only the main copper lode, and did nothing to the others.

There are important facilities for cutting in a short time all the lodes at about 50 or 60 fathoms from surface by driving cross-cuts to them from the deep adit; and with regard to the copper lode where just found west of the cross-course, it will be seen by his reports that Capt. Daw says, though it is only a few feet below the surface, it contains rich copper ore, and that "a finer looking lode cannot be seen;" and he is of opinion that ore in paying quantities will soon be found at that point.

There are on the mine an excellent account-house and manager's residence, with all other necessary out-buildings; also a lot of tram iron, wagons, and timber. All the shafts are complete with ladders ready for working, and at least £20,000 worth of useful work is done for the present company in adits, shafts, and materials available for immediate operations.

The directors fully believe in the views of Capt. Daw and Skewis (in their annexed reports)—namely, that this is a fine mining property, and that such discoveries will be made as will result in opening up a large and profitable mine.

The following are the only contracts—namely:—

Dated 1st March, 1881, and 11th March, 1881, between Henry Spry of the one part and William Criper of the other part.

Dated 5th March, 1881, declaration of trust by William Criper.

Dated April 7, 1881, between William Criper, for himself and others, of the one part, and Charles Harrison Smith, as trustee for the company, of the other part.

Copies of the above contracts, and the Memorandum and Articles of Association, can be seen at the offices of the solicitors, Messrs. Stacpoole and Son, Pinner's Hall, Old Broad Street, London, E.C., and subscribers will be taken to have notice of the contents of them.

Applications for shares to be made on the annexed form, and sent with deposit, at the rate of 2s. 6d. per share, to the bankers.

Copies of prospectus, with reports and form of application for shares can be obtained at the office, 8, Austin Friars, London.

### REPORTS ACCOMPANYING PROSPECTUS.

Report by Capt. JOHN DAW, manager of the famous Arendal and Bratzberg Copper Mines, in Norway, and consulting mining engineer to the Devon Friendship Company.

March 9, 1881.—I lately went over the surface of this sett, and examined the burrows and backs of the lodes, together with the plans. I found that the large returns of rich copper ore came entirely from the lode east of the cross-course, and that nothing had been done on it to the west side. Since I was there I am told that a pit has been sunk on the back of the lode to the west in a very fine gossan spotted with rich copper ore, being 4 ft. wide. Specimens of which I have seen, and better could not be produced. I recommend that the adit be cleared and a cross-cut driven from it to intersect this copper lode under this fine gossan, the result of which, I believe, will be a rich course of ore. This is a fine piece of mining ground, being full 500 fms. long to the west of the cross-course. The cross-cut would be about 15 or 20 fms., and would likely take from three to four months to drive, and the lode would be intersected at from 30 to 40 fms. deep. At the same time I would recommend an air-shaft to be put down on the lode at the most convenient point. To the south of this copper lode there are two or three tin lodes, one of which is large, and has evidently yielded considerable quantities of tin. Looking at the immense results to the east of the cross-course, I have little doubt that under so fine a gossan at least similar results will be found to the west.

JOHN DAW.

Tavistock, March 17, 1881.—Just returned from Sortridge Consols. I am pleased to inform you the lode opened on to the west of the cross-course is full 4 ft. wide, composed of capel, quartz, gossan, and rich copper ore, although only a few feet below the surface; a finer looking lode cannot be seen. The men will shortly begin to clear the adit, and the air shaft will be started immediately. My opinion is ore in paying quantities will soon be found not far from surface. Capt. Skewis's report on this fine property will follow soon; not time for this post. He is much pleased with what he saw.

JOHN DAW.

Report by Capt. WM. SKEWIS, manager of the Gunnislake (Clitters), &c.

Mining Offices, Tavistock, March 22nd, 1881.—As requested by you I have made an inspection of the Sortridge Consols Mine, which is situated within one mile from the Horrabridge Railway Station, and about three miles from Tavistock. The sett is a large one, with a good clay-slate formation overlying the western slope of the Dartmoor granite. There are six known lodes of large size running through the entire length of the sett, three of which are copper and three tin, accompanied with some of the best and most mineral producing elvan courses in the district. There are also some very large

cross-courses crossing these lodes, which are of great importance for the production of mineral, especially where there are so many lodes of such size and character as are known to exist in this property.

The whole of the lodes cut be cut at a depth of 60 fms. by means of a cross-cut being driven north and south from the deep adit. In the last working it appears by the plan that a large quantity of copper was raised from one lode only, I am informed to the extent of £80,000. The shaft, I believe, is sunk some 40 or 50 fms. below the deep adit, and the levels driven about 60 fms. only. I am led to believe, by looking at the old plans, that the workings below the deep adit are at fault; that is to say, they missed that part of the lode which gave the ore above. If that be so, and I have strong reasons for believing it to be the case, the persons re-working this mine will have the benefit of this with a trifling cost. This lode, I find, was never found by the late company to the west of the cross-course, from the fact of its being hove in a contrary direction from that pursued by them in search of it. This fact is now proved by its being cut in costeen pit put down by the proprietors of the land, from which some very fine gossan containing copper ore has been taken.

The situation of this mine is a good one, being, as I before said, in a beautiful piece of clay-slate formation, overlying the granite, similar to that in which the best mines in the district have been found. The lode that has been worked upon was proved to be rich so far as the late company followed it, and it appears that this lode can now be cut west of the cross-course about 20 fathoms deep, by an adit level being driven 20 to 25 fathoms. When done I have belief a good discovery of copper will be made. Also the great north tin lode can be cut by driving a cross-cut about 12 fathoms from the end of the present deep adit. This lode has never been seen below the 20, where I am informed it is 30 ft. wide, and never worked upon by the late company, but the proprietors have since sold a large quantity of tin from it and that level and above. I am of the opinion that the cutting of this, together with the copper lode west of the cross-course, will make such discoveries as will result in opening up a large and profitable mine; in fact, I consider the work already done is all in favour of the present company. The term for the new lease, with 1-30th royalty, is exceedingly liberal, especially as all the buildings, together with so much plant, &c., are all on the property.

WM. SKEWIS.

### FORM OF APPLICATION FOR SHARES.

To the Directors of the Sortridge Copper Mining Company (Limited).

GENTLEMEN,—I request you to allot me shares of £1 each in the capital of the above company, and having deposited 2s. 6d. per share thereon with your bankers, I hereby agree to pay 5s. per share on allotment, the balance when required by the directors, or before I transfer the shares; and I hereby authorise you to enter my name on the Register of Members for the above shares, or for any less number you may allot me.

Dated this 1881.

I am, Gentlemen, your obedient servant

Name of applicant in full .....

Usual signature .....

Address in full .....

Occupation .....

£ : : N.B.—This to be retained by Bankers.

## SORTRIDGE COPPER MINING COMPANY, LIMITED.

In compliance with the representation made to the Directors as to the interruption of business occasioned by the Stock Exchange settlement this week and the intervention of the Holidays, it has been decided to keep the LIST OPEN for a WEEK LONGER, and APPLICATIONS will therefore be received up to FRIDAY, 22ND INST., for LONDON, and SATURDAY, 23RD NST., for the COUNTRY.

By Order, C. HARRISON SMITH, Secretary.



THE DYNAMO-ELECTRIC MACHINE SUPERSEDES EVERY KNOWN BATTERY.

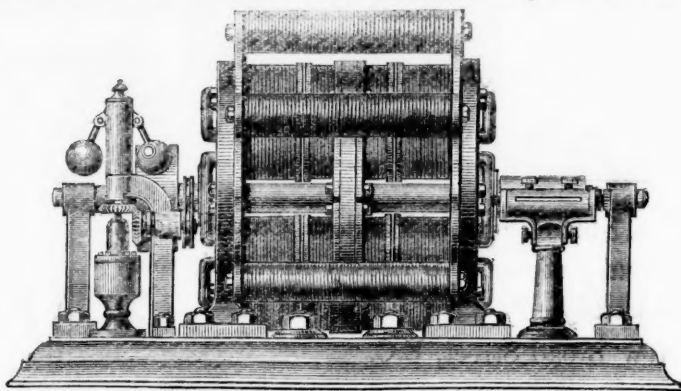
# WILLIAM ELMORE,

## 91, BLACKFRIARS ROAD, LONDON, S.E.

NO OTHER ADDRESS.

NO AGENTS.

PRICES AND  
PARTICULARS  
GIVEN ON  
APPLICATION.



ALL APPLICATIONS  
SHOULD STATE  
THE PURPOSE  
FOR WHICH THE  
MACHINE IS REQUIRED.

### THE "ELMORE" PATENT DYNAMO-ELECTRIC MACHINE,

FOR DEPOSITING

NICKEL, SILVER, BRASS, BRONZE, COPPER, ETC., AND FOR ELECTROTYPING.

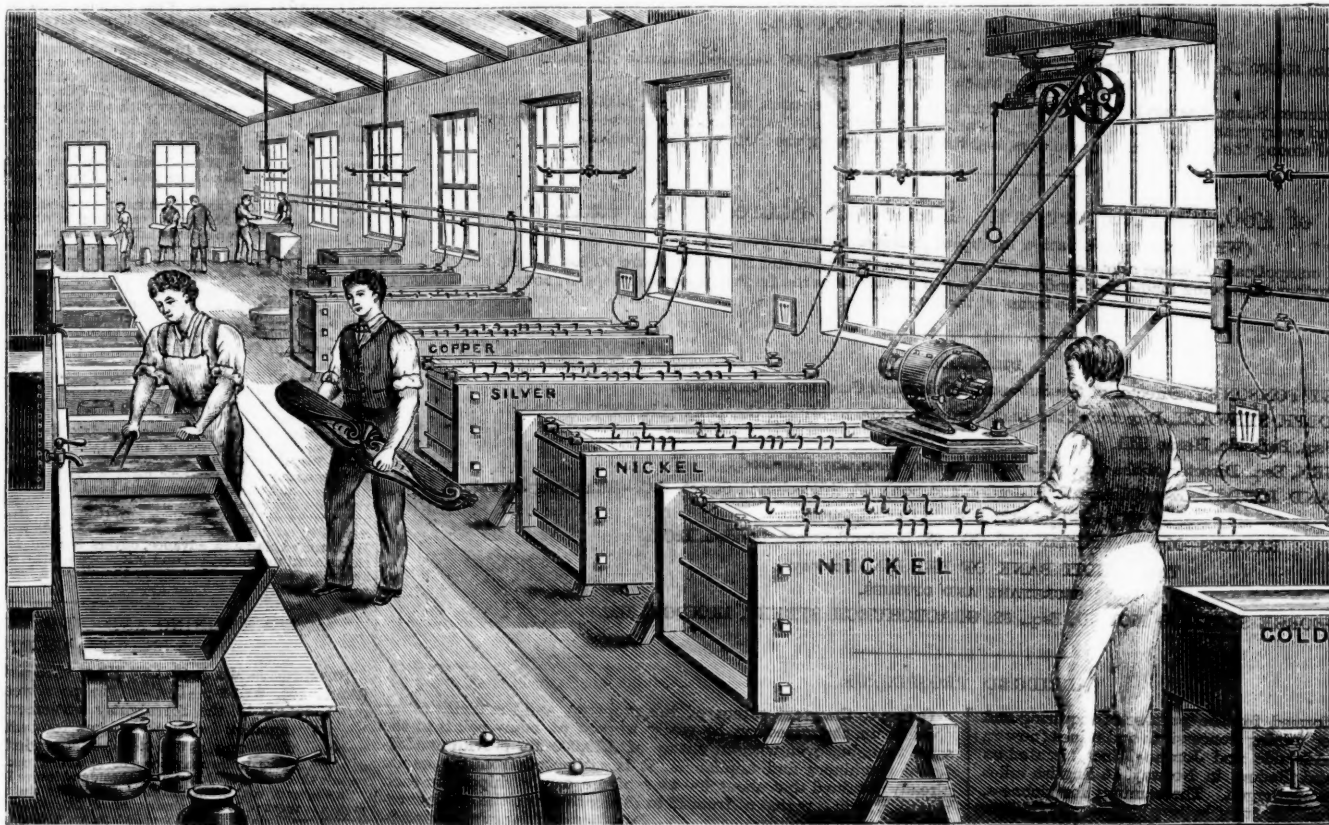
REPEATED COMPARATIVE TRIALS have proved that this is the MOST POWERFUL MACHINE IN THE MARKET, that it NEVER REVERSES CURRENT, and that it is very easily worked without special knowledge.

COMPLETE OUTFITS OR MATERIALS FOR NICKEL-PLATING, SILVER-PLATING, ELECTROTYPING, TINNING, BRONZING, &amp;c.

#### TO TIN-PLATE MANUFACTURERS AND GALVANIZERS.

The attention of TIN-PLATE MANUFACTURERS AND GALVANIZERS is respectfully directed to the NEW PROCESSES of manufacturing Tin-Plates by depositing the Metal by the current of an "ELMORE'S PATENT" DYNAMO-ELECTRIC MACHINE through aqueous solutions in contradistinction to the old processes of dipping in molten metal.

THE ELECTRO DEPOSITED METAL IS PERFECTLY REGULAR IN character, and the electric current may be so EASILY CONTROLLED as to coat with a MERE FILM OF METAL, OR A DEPOSIT OF ANY DESIRED THICKNESS. The great economy in the cost of plant and cost of production will be immediately self-evident. As nearly the whole of the existing plant can be used in the new process, the cost of altering the system will be comparatively trifling.



The above represents an Electro-plating Works, in which an "ELMORE" PATENT DYNAMO-ELECTRIC MACHINE is being used for the simultaneous deposition of Nickel, Silver, Copper, Bronze, Brass, Gold, Tin, Zinc, &c., from their Solutions.

#### From "INDUSTRY."

"By means of the dynamo-electric machine of Mr. William Elmore, the perfection of nickel-plating is obtained. Dynamo-electricity—that is, electricity produced by motive power—presents advantages which cannot be claimed by any galvanic battery known. Not only is the current produced at a far less cost, but it can be so regulated or controlled that the smallest article can be separately coated by a dynamo-electric machine, capable (in its full application) of depositing from 25 lbs. to 30 lbs. of silver per hour. It is a remarkable fact, moreover, that metals can be deposited from their solutions by dynamo-electricity in less than one-third of the time occupied by the ordinary battery in producing the same result. The quality of the deposit, in regard to its smoothness and regularity of character, is greatly in favour of dynamo-electricity.

"Having had considerable experience in dynamo-electric machines, Mr. W. Elmore has been careful to note the defects and irregularities which some of the less skilfully constructed machines have presented, and thus he has been enabled to produce a really practical and effective machine, of great power, which may be thoroughly depended upon as being capable of giving the most satisfactory results for all purposes of electro-deposition, including gilding, silvering, brassing, nickeling, and electrotyping.

"The advantages of dynamo-electricity in the important art of electrotyping are beyond estimation. When it is known that a fine, clear, deposit (or 'shell') of copper, 800 ft. square feet, can be obtained by a dynamo-machine in less than three hours, without 'pin-holes,' and other defects common to battery deposits, it will be at once seen that the ordinary battery is effectually and unmistakably superseded.

"One of the most useful purposes to which dynamo-electricity can be applied is the production of chemically pure nickel solutions, and salts of nickel, for the electro-deposition of the metal. The vast amount of elec-

tricity generated in a dynamo-machine enables one to dissolve nickel and other metals in their own solvents, far more economically, and in greater purity than by the ordinary method of treating metals. Electrical power obtained by the ordinary galvanic battery would be far too expensive for this purpose. The solutions formed by the aid of dynamo-electricity are not only purely and economically made; but they can be produced in far less time, and with comparatively little trouble and attention. To Mr. Elmore is due the honour of having introduced into this country the process of making pure nickel solutions and salts by means of dynamo-electricity. The boon he has thus conferred upon a large industrial class we need not dilate upon."

#### From "THE IRONMONGER."

"A still further improvement in the deposition of metals has been recently obtained by the introduction of the dynamo-electric machine of Mr. Wm. Elmore, which is in reality electricity produced by motive power. By this means the current is obtained at a much less cost, and I have seen it regulated to such a nicety that the smallest article could be separately coated in a full-sized vat. The deposit is also effected in about one-third of the time taken by a galvanic battery, and for smoothness and regularity of surface is greatly in favour of the dynamo process, which may be known from the fact that all Mr. Elmore's competitors, both in London and elsewhere, are fast adopting his machine in preference to the old process. He has, in addition, supplied it to many large firms throughout the country for electrotyping purposes, and the reports received from them are gratifying to the inventor. Mr. Elmore is also the author of an interesting little work on the subject, which may be read with interest by those who contemplate entering into what is fast becoming an important industry."

Dynamo-Electric Machines specially constructed for Depositing ANY METAL in ANY QUANTITY.

WILLIAM ELMORE, 91, BLACKFRIARS ROAD, LONDON, S.E.

DYNAMO-ELECTRIC MACHINES FOR ELECTRIC LIGHTING.

DYNAMO-ELECTRIC MACHINES SPECIALLY CONSTRUCTED FOR DECOMPOSITION.

DYNAMO-ELECTRIC MACHINES FOR DEPOSITING ANY METAL IN ANY QUANTITY.



# Goddard's Lead and Blende Mining Company, Limited.

CAPITAL £10,000, IN 10,000 SHARES OF £1 EACH.

Payable 10s. per Share on application, and 10s. per Share on allotment.

Prospectuses, containing Reports by Capt. Nottingham, of Pandora, Capt. Sandoe, of D'Eresby Mountain, and Capt. R. H. Vivian, of North D'Eresby Mountain, may be obtained by letter, addressed to The Secretary,—

E. BEAZLEY, 33, New Broad Street, E.C.

The Public List of Applications will be Opened on Saturday, the 16th April, and Closed on or before Saturday, the 23rd April.

The Directors desire to call special attention to the ascertained richness and extent of the copper deposits throughout the mines and concessions acquired by the company; and also to the unusual facilities for thoroughly developing these mines, which are now being actively worked, and which the Directors feel satisfied will yield large returns at a very early date.

The vendors, having thorough confidence in the undertaking, have not only consented to accept a large proportion of the purchase money in deferred shares, but have also agreed to guarantee the preference dividends of 10 per cent. per annum for two years—

The Hon. ASHLEY PONSONBY, and  
The Hon. RANDOLPH STEWART,

as trustees, the necessary amount in cash to satisfy the vendors' guarantee on the amount called up. This will give more than sufficient time for the full development of the mines as herein shown.

Accordingly, the dividends on the Preference Shares will commence immediately, with the further right to participation in additional profits as herein mentioned.

## The Norway Copper Mines Company

(LIMITED).

CAPITAL ... .. £75,000,

Divided into 60,000 Ten Per cent. Preference Shares of £1 each, and 15,000 Deferred Shares of £1 each, the latter being taken by the Vendors.

The holders of the Deferred Shares are not to receive any dividend until the 10 per cent. has first been paid on the Preference Shares in each and every year (cumulative). The surplus net profits are then to be divided as follows:—40 per cent. thereof among the Preference Shareholders, and the balance among the Deferred Shareholders.

Issue of £60,000 Ten per cent. Preference Shares of £1 each.

(With further participation in surplus profits as above mentioned.)

Payable as follows:—1s. on application, 4s. on allotment, 2s. 6d. per share on 1st June, and 2s. 6d. per share on 1st September, 1881. In the event of further calls being made, the Vendors will pay to the Trustees the further prior cash deposit, according to the terms of their guarantee.

### DIRECTORS.

The Hon. ASHLEY PONSONBY, Director of the Submarine Telegraph Company.—CHAIRMAN.

The Hon. RANDOLPH STEWART, Director of the Richmond Consolidated Mining Company (Limited).

JOHN WHITE, Esq., Parkside, Herne Hill.

\*ROBERT MILBURN, Esq., Director of the City of London Brewery Company (Limited).

\*THOMAS ROWLAND JORDAN, Esq. (Messrs. T. B. Jordan and Son), 52, Gracechurch Street, E.C.—Managing Director.

\*Who will join the Board after allotment.

BANKERS—Messrs. MARTIN and CO., 68, Lombard Street, London, E.C.

The KREDIT BANK OF BERGEN, Norway.

SECRETARY AND OFFICES.

GEORGE STIRLING MOULD, Esq., 52, GRACECHURCH STREET, LONDON, E.C.

### ABRIDGED PROSPECTUS.

This company has been formed for the purpose of acquiring and working the valuable copper mining concessions and mines (now in operation) known as the Adelaide and Jordan Mines, situated on the islands of Halsöen and Raden in Norway, 15 English miles north of the port and town of Bergen. These mines for richness, extent, and facilities of working, it is believed, give every indication of ranking amongst the most important and valuable in Europe, the lodes extending through the concession for a distance of over 3 English miles. Steamers from London and Hull sail regularly to Bergen, there being also a constant service of steamers from thence to the mines, enabling stores and machinery to be delivered at a cheap rate, and the ores shipped direct to Swansea at about the same cost as from the copper mines of Cornwall and Devon.

Several important lodes exist on the property, in close proximity to each other, some of which converge at the Adelaide Mines (the principal point of present operations), where the main shaft has been sunk on the lode to a depth of over 100 ft., and about 200 tons of ore, yielding from 5 to 25 per cent. of copper, and averaging 8 to 10 per cent., is now lying on the surface.

The works at this shaft are in as full operation as the present machinery and plant will allow, and, as the reports point out, the lode is increasing in size and richness with every fathom in depth.

At Jordan Mine, although the works are not so far advanced, the ground has been sufficiently opened up to prove the continuity and extent of these lodes.

The facilities for mining are unusually favourable, owing to the nature of the formation, lie of the ground, and proximity of workings to the sea. The dressing cost will be small, owing to the richness of the ore and plentiful water supply, which may be utilised. Labour is cheap, and the climate excellent.

These important natural advantages will enable the ore to be raised, dressed to 15 per cent., and delivered at Swansea (the principal English market), at the very small cost of about £1 5s. to £1 10s. per ton, including freight from the mines and all charges. The present market value of the ore is about £9 per ton, and this shows a net profit of, say, £7 10s. per ton. (See Mr. Boyd's report.)

Owing to the great extent of this property, and the facilities for opening up, the mines can be easily worked at many points at the same time, but even with an outlay of £10,000 for providing additional machinery and appliances, it is estimated from the results already obtained that about 400 tons of ore can be shipped in each month, within a period of from 12 to 18 months from the commencement of the company's operations. But, inasmuch as pay ground is already reached, and valuable ore is being daily raised, immediate profit can be realised.

Under the above estimate the profit on the 400 tons should amount to about £3000 per month, or allowing for dead work and explorations underground, say £2500 net, equal to about £30,000 per annum.

The property is free from all rent, royalties, or any charges whatsoever, save Government income-tax on profits, similar to that levied in this country. It is held by the vendors in perpetuity by patents of concession direct from the Norwegian Government.

The vendors have agreed to sell to the company the entire property, together with their machinery and plant, and also the ore now on the surface, for the sum of £15,000 in cash and £15,000 in fully paid-up deferred shares, which are not entitled to participate in profits in any year until after payment to the preference shareholders of 10 per cent. cumulative. The vendors have further agreed to guarantee the preference dividend for two years, as before mentioned, depositing the necessary amount in cash with the company for this purpose, which will, as herein shown, give more than sufficient time for full development of the mines.

The preference shares, therefore, give an immediate secured income of 10 per cent. per annum, which will doubtless be very largely increased within a short period, the estimates of profits showing 40 to 50 per cent. per annum; consequently these shares form an unusually favourable opportunity for remunerative investment.

Full prospectuses, containing particulars of the contracts which have been entered into, and Forms of Applications for shares can be obtained from the Bankers or the Secretary, at the offices of the company, 52, Gracechurch-street, E.C.

### PROVINCIAL STOCK AND SHARE MARKETS.

**CORNISH MINE SHARE MARKET.**—Mr. S. J. DAVEY, mine share-dealer, Redruth (April 14), writes:—Fluctuations have been rather sharp in our market during the week, although there has not been very much business done. Agars, South Frances, Carn Brea, Dolcoaths, East Pools, and Tincrofts in particular declined from last week's quotations, and afterwards recovered again. At the Peavor meeting, on Tuesday, and 10s. dividend was declared, and at West Basset 5s. dividend was declared. At Carn Brea meeting, on Thursday, a 30s. dividend was declared, and the shares were subdivided into 6000. The forfeited shares sold at the meeting realised 137½, cum div. Market closes quiet to-day at the following prices:—Blue Hills, 3¼ to 3½; Carn Brea, 130 to 131; Cook's Kitchen, 11¼ to 12¼; Dolcoath, 55½ to 56½; East Pool, 35½ to 36½; Killifreth, ¼ to ½; Mellanear, 5 to 5½; New Cook's Kitchen, 8 to 6½; North Busy, ¼ to 1; Penhalls, 1½ to 2; Pedn-an-drea, 3¼ to 3½; South Condurrow, 9¼ to 9½; South Crofty, 9 to 9½; South Frances, 10¼ to 10½; Tincroft, 18¼ to 19; West Basset, 14½ to 15; West Frances, 11 to 12; West Kitty, 3½ to 4; West Peavor, 15½ to 16½; West Pollice, 4¼ to 4½; West Tolgus, 30 to 35; West Seton, 22 to 23; Wheal Agar, 10¼ to 10½; Wheal Basset, 5¼ to 5½; Wheal Grenville, 8½ to 9; Wheal Peavor, 17 to 18; Wheal Kitty (St. Agnes), 2¼ to 2½; Wheal Uny, 2¼ to 2½; Wheal Boys, 2¼ to 2½.

—Mr. J. H. REYNOLDS, stock and share broker, Redruth (April 13), writes:—The mining share market closes rather brisk, with a good demand for Agars, South Frances, and Wheal Basset. Dividends of 10s. and 5s. per share have been declared at Peavor and West Basset respectively. The following are the closing quotations:—Blue Hills, 3¼ to 3½; Carn Brea, 130 to 131; Cook's Kitchen, 11¼ to 12; Dolcoath, 55½ to 56½; East Pool, 35½ to 36; Gunnislake (Clitters), 4 to 4½; Levant, 6 to 8; Marke Valley, 1¼ to 1½; Mellanear, 5 to 5½; New Cook's Kitchen, 8½ to 9½; North Busy, 1 to 1¼; North Herodsfoot, 10s. to 12s. 6d.; North Penrathal, 1½ to 1¾; Pedn-an-drea, 3¼ to 3½; Penhalls, 1½ to 2; South Caradon, 60 to 65; South Condurrow, 9½ to 10; South Crofty, 9 to 9½; South Frances, 9¼ to 10; Tincroft, 18½ to 19; Trugo, 1¼ to 1½; West Basset, 14½ to 15½; West Frances, 12½ to 13; West Peavor, 16 to 16½; West Pollice, 4¼ to 4½; West Seton, 20 to 22; West Tolgus, 35 to 40; Wheal Agar, 9¼ to 10½; Wheal Basset, 5¼ to 5½; Wheal Boys, 2½ to 2½; Wheal Comford, 3½ to 4; Wheal Grenville, 9 to 9½; Wheal Jane, 10s. to 12s. 6d.; Wheal Jewell, 15s. to 20s.; Wheal Kitty, 2½ to 2½; Wheal Peavor, 17½ to 17½; Wheal Prussia, 1¼ to 1½; Wheal Uny, 2¼ to 2½. Cornish Bank, 22½.

—Mr. M. W. BAWDEN, Liskeard (April 13), writes:—The mining market has been dull and inactive, and will probably remain so until after the Easter recess and the usual fortnightly settlement. Tin stock weaker, in sympathy with the slight reduction in the price of tin. Phoenix United Mines shares are quoted 4 to 4½, and in good demand; this property is looking well, and is about to enter the Dividend List again. They will sell another 50 tons of tin before the meeting, which takes place on Thursday next, leaving a profit of over 1800l. on the 16 weeks working, when a dividend of 2s. 6d. a share is expected. The manager hopes to sell 50 tons of tin regularly every four weeks in future. It is likely these shares will see double the present price shortly. Subjoined are the closing prices:—Bedford United, 2 to 2½; Carn Brea, 131 to 132; Gunnislake (Clitters), 4 to 4½; Cook's Kitchen, 11¼ to 12; Dolcoath, 56 to 56½; Devon Consols, 12 to 12½; Devon Great United, 1¼ to 2; East Caradon, 1 to 1½; East Crebhor, ¾ to ¾; East Herodsfoot, 1 to 1½; East Pool, 35 to 35½; Gawton United, 1 to 1½; Glasgow Caradon, ¾ to 1; Herodsfoot, ¾ to ¾; Hingston Down, 1½ to 1½; Kit Hill Consols, ½ prem.; Lady Bertha, ¾ to ¾; Marke Valley, 1½ to 1½; New West Caradon, ¾ to ¾; North Herodsfoot, ¾ to ¾; Old Gunnislake, ¾ to ¾; Phoenix United, 4 to 4½; Prince of Wales, ¾ to ¾; South Caradon, 60 to 62½; South Condurrow, 9¼ to 9½; South Crebhor, ¾ to 1; South Crofty, 9 to 9½; South Devon United, 2½ to 3; South Frances, 9¼ to 10; Tincroft, 18 to 18½; West Basset, 15 to 15½, ex div.; West Caradon, ¾ to 1; West Crebhor, ¾ to ¾; West Frances, 12 to 12½; West Mary Ann, 1 to 1½; West Phoenix, 1½ to 1½; Wheal Agar, 9½ to 9½; Wheal Basset, 5½ to 5½; Wheal Crebhor, 4 to 4½; Wheal Grenville, 8½ to 8½; Wheal Hony and Treawny, 2½ to 2½; Wheal Kitty, 1¼ to 2; Wheal Jane, ½ to ¾; Wheal Peavor, 16½ to 17, ex div.; Wheal Uny, 3 to 2½.

**MANCHESTER.**—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (April 13), write:—The settlement and approaching holidays have together caused transactions recorded to be few in number, but whilst not much new business has been in progress, the favourable weather and expected good Easter traffics have instilled a hopeful and buoyant feeling into the market for the leading securities, and prices have in many instances moved upwards to—some cases—substantial advances. In financial and industrial concerns, however, dullness still prevails, and taken all round figures remain much the same as at last report, with the tone still dull and drooping. A few instances there are on which more than fractional fall is to be noted, but they are not many, and where better values are marked the changes are not worthy of special mention.

BANKS show a fair proportion of what dealings have been concluded, and prices realised have been fully up to late quotations. The variations are few and unimportant, being confined to declines. National Provincial being ½, Manchester Joint Stock ¼, and Manchester and Salford Bank ¼ lower.

**INSURANCE.**—The chief portion of the business in this class for the week is in Boiler Insurance and Steam Power, which have been done a few times at about late quotations. The rest of the dealings have been mostly solitary. Quotations show very little change. Higher—Liverpool and London and Globe, ¾; Maritime, ¾; Queen and Sea, ¼ each. Lower—Commercial Union, ¼; Royal Liverpool, ¾; and Boiler Insurance and Steam Power, ¼.

**IRON, COAL, &c., AND MINING.**—Dullness has pervaded this market again, and prices generally show a further decline; what concerns have moved upwards have done so only fractionally. Ebbw Vale and Canadian Copper have been most dealt in, which, together with a few other isolated dealings, comprise the whole of the business reported in these securities. Higher:—United States Rolling Stock, ¼; Staveley Coal and Iron, A, ¼; Teeside Iron and Engine, ¼; Canadian Copper and Sulphur, 6d.; Lower:—Sheepbridge Coal and Iron, 2½; Park Gate Iron, 1½; West Cumberland Iron and Steel, 1; John Browns, ¾; Consett Iron, ¾; Bilbao Iron Ore, ¾; Ebbw Vale, ¼; and Tharvis Sulphur and Copper, ¼.

**COTTON SPINNING AND MANUFACTURING.**—A stronger tone manifested itself at the beginning of this week, resulting in a pretty general advance of prices for the most popular concerns. This has been maintained, and to-day, though the demand is hardly so strong as it was, no reduction in figures is made.

**TELEGRAPHS.**—These securities all round show rather better on comparison. Figures—allowing for being ex div. in the cases of Anglo-Ordinary and preferred, Eastern, and Globe—where altered are for the better. Anglo-Ordinary, deferred, preference all being ½; Direct United States Cable, Eastern, Globe, and preference all ½, and Western and Brazilian ¼ higher. West India and Panama have been higher, but have settled back to price ruling at last report.

CANALS AND CORPORATION STOCK, &c., are unchanged, and nothing of note done.

**MISCELLANEOUS.**—Very little moving, changes being a rise of ¼ in India and Pacific Steam, and a fall of ½ in Manchester Carriage and Trams, A (the dividend on these just announced at 8 per cent.), and ¼ on Manchester Bonding Warehousing.

**RAILWAYS.**—Although business during the past week has been very small, prices to-day have shown an important change for the better. Caledonians, North British, Midland, Great Western, Great Northern, North Eastern, London, and Great Easterns mark ½ to 1½ higher. In Brighton, the numerous and excited fluctuations have occurred, to-day's figures quoting 2½ rise since last report. The whole market is distinctly firmer, presumably on anticipations of holiday traffics. In Canadians, Grand Trunks since have moved adversely on balance, but now quote above lowest point touched, while Great Westerns exhibit a 5s. advance, buyers coming forward on their report. Americans continue unsettled, and prices show little change. In New York, Pennsylvania, and Ohio Mortgages, the demand has brought values up, and the tone is healthy.

### SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

**STIRLING.**—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (April 14), writes:—During the past week the markets have been quiet, owing to the fortnightly settlement intervening, which has been arranged on favourable terms for purchasers. Foreign politics appear quiet; and, as the weather is gradually improving, the return of more active trade may soon be reckoned upon, and with better prices for metals there will, no doubt, be a considerable rise for some of the shares.

In shares of coal, iron, and steel companies the movement of the week comprised advances of 15s. per share each on Cairnbarrow, 5s. on Lochore and Caplehead, and 1s. on Marbella; but Ebbw Vale have declined 15s. per share, Clyde Coal 3s., Chilling Iron 2s. 6d., Monkland 2s., ditto (pref.) 1s. 6d., and Benhar 6d. Steel Company of Scotland shares are now dealt in ex div. In the Scotch pig-iron market the price of warrants has declined from 48s. 6d. to 47s. 5d., owing to the continued large production and disappointing demand for this season of the year. However, any better appearance in the market would bring forward buyers, as the stocks of consumers must be getting reduced after so long abstaining from buying. Benhar are steady, at 10s. 3d. to 11s.; Ebbw Vale 22½, ex div.; Bilson and Crump Meadow 60s.; Boleckow, Vaughan, 27; Cardiff and Swansea Colliery, 45s.; Chapel House Colliery, 13s.; Chilling Iron, 60s.; Clyde Coal, 72s. 6d. to 73s.; Ebbw Vale, 8½ to 8¾; Henry Briggs, A, 10 to 11; John Bagnall and Sons, 7s. 6d. to 10s.; ditto, B, 2s. 6d. to 7s. 6d.; Lofthouse Colliery, 40s. to 50s.; Marbella, 91s. to 92s.; Monkland, 35s. to 37s.; ditto (pref.), 74s. to 76s.; Oakham Colliery (pref.), 5s.; Steel Company of Scotland, 103½.

In shares of foreign copper concerns Rio Tinto and Tharvis have each declined 13s. 9d. per share. Tharvis have declined from 35½ to 38½. Panulillo are now quoted ex interim dividend of 4s. per share, payable April 23. Canadian touched 37s., but have now improved to about 2½; Huntington, 51s.; Rio Tinto, 23 to 24; Santa Cruz, 2s. 6d. prem.; Yorke Peninsula, 5s. to 6s.; ditto (pref.), 17s. to 19s.

In shares of home mines there is little or nothing doing, as the quiet state of the metal market discourages investors. Glasgow Caradon remain at 21s. 6d. to 22s. It is said the Great Wheal Polgoth, a mine recently started, is expected to return 10s. per share (1d. paid) from the sale of a portion of their property. East Botallocks enquired for. Blaen Caelan are at 21s. Bwlch United, 25s. to 35s.; Canon, 20s. to 30s.; Cwm Yr Eidd, 7s. 6d.; East Buller, 10s.; East Chiverton, 35s.; East Long Rake, 30s.; East Wheal Row, 21s. 3d. prem.; Frongoch, 80s. to 90s.; Gawton, 15s. to 25s.; Grogwinlon, 40s. to 50s.; Indian Queen, 30s. to 35s.; Lady Ashburton, 20s.; Lead Hills, 45s.; Lady Bertha, 15s. to 20s.; Llanrwst, 2s. 6d.; New Wye Valley, 15s. to 25s.; North Hendre, 5; North Penrathal, 25s. to 30s.; North Levant, 8; Parka Consols, 37s. 6d.; Pant-y-Mwyn, 17s. 6d. to 22s. 6d.; South D'Eresby, 13s. 9d.; South Crebhor, 15s. to 20s.; Tamar, 17s. 6d. to 22s. 6d.; Tin Hill, 45s.; Van United, 5s. to 7s. 6d.; and Wheal Crebhor, 80s. to 85s.

In shares of gold and silver mines Richmond have advanced 7s. 6d. per share, having touched 18 to 19½. More business has been done in Indian gold mines owing to the announcement that the Glasgow South Indian Company had begun crushing, and the yield of gold was far beyond the expectation formed. Alpha Gold of India are at 45s.; Australian Mines, 9s.; Chontales, 2s. 6d. to 3s. 6d.; Consolidated, 5s. to 10s.; Callao "Bis," 25s.; Flagstaff, 12s. 6d. to 15s.; Glasgow South Indian Gold, 45s. to 55s.; Gold Association of Canada, 17s.; Great Southern



of Mysore Gold, 10s.; Indian Mammoth, 2s. 6d. dis.; Indian Phoenix, 35s.; Indian Tevelyan, 12s. 6d. prem.; Imperial Crown of New Zealand, 41s.; Javali, 4s. 6d. to 5s. 6d.; London and California, 5s.; Malpas, 5s.; Mysore Reefs, 2s. 6d. dis. to par; New Gold Runs, 5s.; Nava de Jadraque, 10s. to 15s.; Oregum, 2s. 6d. prem.; Pitangu, 40s.; Pestarena, 7s. to 9s.; ditto (pref.), 16s. to 20s.; Quartz Hill, 6s.; Rhodes Reef, 21s. 3d.; and Silver Peak, 20s. 6d.

In shares of oil companies Broxburn and Dalmeny have advanced 10s. per share, Young's Paraffin is reduced 3s. 9d. and Uphall is 3d. Young's Paraffin has been done at 11d. and 11 1/2s. 3d.

Shares of miscellaneous companies have been in better demand. London and Glasgow Engineerings have advanced 7s. 6d. per share; Scottish Wagon, 2s. 6d., and ditto (New), 1s. Drottwich Salt are at 21s.; Langdale's Chemical, 38s. 9d.; Lawes' 5 1/2 to 5 1/2; Montrose Slate Quarries 12 1/2 per Cent. Debentures, 10; and Newcastle Chemical, 10s.

**YORK AND LANCASTER UNITED MINES COMPANY (Limited).**—This company has been formed to acquire and work mines in these counties, 5 miles from Clitheroe, and near the Leeds and Yorkshire Railway. The sett is extensive, and contains three well defined east and west lodes, and several north and south and easterly lodes. The reports of mining experts show its value must prove remunerative. Its permanency appears established from several centuries working for lead and silver, and as the working was last stopped by water, but previous to the invention of steam pumps, it is reasonable to calculate that a comparatively small outlay for modern machinery will again open a prosperous period in its history. Numerous lodes, at present under water, have given evidence of great richness, one having yielded up to 7 tons of lead in one day when last worked, and can easily be reached. It includes strong and valuable veins of ore of carbonate of zinc, for which an increased demand has recently arisen; and the supply being limited, the prices to be obtained are very remunerative. At present, sales of sulphate of baryta go far to cover the expenses of the mines, and the enlarged facilities will enable the output to be increased. The fact that the shareholders principally reside near the mines is the best proof of their worth. The capital—25,000—has been in 17 shares.

**EDINBURGH.**—Messrs. THOMAS MILLER and SONS, stock and share-brokers, Princes-street (April 14), write:—The leading Scotch railway stocks have fluctuated to a moderate extent within the last week. Caledonian has gained on balance 1/2, but North British has lost 1/2. In Bank stocks British Linen has declined from 265 to 263, Clydesdale from 220 to 215, Union from 220 to 216, while Royal has risen from 203 1/2 to 204. In insurance shares Caledonian has gone down from 86 to 84 1/2. North British and Mercantile on the announcement of the dividend and profits for last year spring from 65 1/2 to 63 1/2, but on a number of sales receded again to 67 1/2, and recovered to-day to 68 1/2. In mining shares Canadian Copper has gone from 39 to 38s. 6d., Clyde Coal from 76s. to 75s. 6d., Marbella from 92s. to 92s. 6d., Monkland Iron from 38s. to 35s. 6d., ditto Preference from 75s. 6d. to 73s., Tharston from 39 1/2 to 33 1/2, Young's Paraffin have fallen from 11 1/2 to 11.

#### IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

**CORK.**—Messrs. J. H. CARROLL and SONS, stock and share brokers, South Mall (April 23), write:—Markets have been very quiet. Great Southwesterns have fallen to 112 and Midlands to 83 1/2. Limericks were also easier, but Passages were asked for at 11 1/2, and Macroons done at 6 1/2. National Banks are firm at 67 1/2, and Munsters good at 6 1/2 to 7. Provincials have also been bought at 6 1/2, and Hibernians at 4s. Cork Steam Packets are better, at 12 1/2 to 12 1/2, and Lyons shares at 5 to 5 1/2. Gas shares were done at 7 1/2, Gouldings remain 9 1/2 to 9 1/2, and Levy's, 4. Harbour Board Debentures, 102 1/2.

#### WATSON BROTHERS' MINING CIRCULAR.

**WATSON BROTHERS**  
MINEOWNERS, STOCK AND SHARE DEALERS, &c  
1. ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

We stated last week that a large shareholder had sent us a communication in regard to the sub-division of D'Eresby Mountain shares, and proposed a plan which he thought would be acceptable, and greatly enhance the value of the shares, which are too heavy for the fashion of the day. At present the mine is in 1536 shares, all of the same value, and upon which the actual cash capital paid was 17,920l. Our correspondent's proposal, therefore, is to add 2080l. to this, and make the capital stand at 20,000l. Sub-divide the shares into 40,000, with 10s. paid, and give every present shareholder 24 shares for every one he now holds; this would absorb 36,864l. The division of 24 each, or 36,864, would then leave 3136 shares in reserve. Out of these our correspondent would urge the directors to offer 1860 for a bonus (to present holders only) at 17. per share—that is to say, every holder of 20 of the sub-divided shares would be entitled to one of these 1860 for 17. This would raise 1860l. to be put to capital account, and would form a nice reserve cash capital, in addition to 1276 shares (making up the 3136 shares) to be also held unissued, and in reserve. We have thus given in as concise a form as we could the plan as proposed to us by a large shareholder last week. It seems feasible enough, and it remains for the shareholders generally to say whether it shall be carried out or not. One or two holders of 100 shares each have also pressed the matter upon the directors of late, believing that 24 shares would be more saleable, even at 2l. 10s. or 3l. each, than one share at 50l., as at present.

We should remark here that the D'Eresby Company have capital in hand and are now making returns. Still it is argued that a good reserve fund always strengthens a company. It must also be considered that the above plan is a general one, and could be modified in details, if thought necessary, when under consideration.

The new shaft is holed to the 120 at Wheal Crebor, and we shall soon be in a position to sink below that level in the fine course of ore in the bottom of that level. This has all along been the grand point of the mine.

We do not care about making comparisons, but no doubt as our Cornish Correspondent states, many things are being brought out in London for 20,000l. and 30,000l. prem., with no better prospects than East Blue Hills Mine, shares in which we offered to our friends last week at the rate of 6000l. for the whole property, and with 3000l. in hand. Since then Capt. Teague, of Carn Brea, and Mr. Daubuz, Chairman of West Basset, have become large shareholders; and we have little doubt that very shortly tin will be reached, and the shares go to a high premium, and we shall then have the satisfaction of knowing that we gave every one a chance of coming in easy. Capt. Teague is manager of the adjoining mines—Kitty (St. Agnes) and Blue Hills—and knows the value of the district.

The sample of the halvans ore sent up from Parys Mountain has been assayed and yields—iron, 32.65; copper, 3.83; sulphur, 35.47; silica, 25; silver, 19 dwts. to the ton, and distinct traces of gold. Apart, however, from silver and gold, the ores ought to be of good commercial value with such a produce in copper and iron.

Replying more fully to our Arenal correspondent of last week, we may state that the company was formed in 1878, in 12,000 shares of 4l. each. Of this capital, owing to circumstances of management to which we need not refer, much was wasted in abortive attempts to smelt the ores at works about four miles from the mines, and proper attention was not paid to opening out the mines. In 1880 Captain Daw was engaged as manager, and to erect machinery and properly open out the mines further capital was required, and 12,000 shares of 17. each, having a preferential dividend of 6 per cent., were created. Since Capt. Daw took the management, though he has had the worst months of a severe year to contend against, he has sent over a large quantity of ore, and from this time anticipates sending over about 400 tons monthly, at a profit of about 1000l. per month. There are 3000 more preference shares to issue to pay off debts, and allow the profits to go to dividends. The present profit is said to be enough in one month to pay a year's dividends on the preference.

**THE BEAUMONT COMPRESSED AIR ENGINE.**—A further trial of the Beaumont compressed air engine which is expected to be adopted by the tramway companies in London, and now exhibited in various places, took place at Stratford, in the presence of Colonel Beaumont, the patentee, and several gentlemen connected with the North Metropolitan Tramways Company. Two cars were attached to the engine, which made the journey to Leytonstone and back in 32 minutes. The pressure on the reservoir on starting was 930 lbs. per square foot, and on returning only 260 lbs. was used: 470 lbs. of air was exhausted on the whole journey out and home, the distance travelled being 3 1/2 miles. The passengers carried averaged 104 each way, and the time mentioned included a stoppage at the Plough and

Harrow of 13 minutes. When the traffic is definitely settled the exchange of engines for the completing journey will not exceed six minutes.

#### FOREIGN MINES.

**ST. JOHN DEL REY.**—Telegram from Morro Velho, dated Rio de Janeiro April 11: Produce for the month of March, 22,500 oits.; value, 87,134l.; yield, 4 1/2 oits. per ton. A large proportion of killas still to quarry and haul.—Culiba, 220 tons stamped; yield, 2 1/2 oits. per ton.

**RICHMOND CONSOLIDATED.**—Telegram from Eureka, Nevada, dated April 12: Week's run, 847,000, from 835 tons of ore; refinery, 445,000.

—R. Rickard, March 24: The drift from Lizette tunnel cross-cut has been extended 28 ft. in favourable ground. The 200, north from cave, has been advanced 30 ft. on a well-defined fissure and broken ground. The 200 north has been drifted 10 ft. in hard limestone. The 300 north has been extended 7 ft. without any change to mention. The 400, north from No. 11 chamber, has been advanced 5 ft. in hard ground. The 600, north from No. 14 chute, has been drifted 15 ft. without any change to mention. The 700, north-west from north cross-cut, has been extended 12 ft. in favourable ground. The 800 north-west has been advanced 7 ft. in hard ground. The 900 west has been drifted 17 ft. in shale. The 300 mine has been sunk 10 ft. below the 1000 ft. level to explore on the quartzite. The ore found in the rise from the 600 cross-cut drift has been opened on 20 by 10 ft., and looks very favourable. The furnaces are smelting the average quantity of fair grade ore.

**SANTA CRUZ SULPHUR AND COPPER.**—April 14: The directors have received a telegram from their agents announcing their arrival at the mine, and that men are already working, and that the first cargo of ore will be shipped about the middle of May.

**CHONTALLES.**—March 5: During the month of February we treated at the stamps 480 tons of mineral which produced 109 oz. of gold, or an average of 4 1/2 dwts. to the ton. The cost at the mines for February was 432s. 8s. The gold is valued at 327l.; loss, 105s. 8s. The above cost includes the sum 153s. 8s. paid for freights, &c. We have some timber brought in for Consuelo, have already made a new bridge over the Consuelo river, and laid down the tramroad to the mouth of the deep adit level. We shall now go on with the tramroad the mine, and with the clearing of the adit with all speed.—Estrella: Drove the main level 15 feet, stopped from back of main level west 153 yards; total quantity quartz raised, 490 tons, north, on an average, 4 1/2 dwts. to the ton.

**EUREKA (Nevada).**—The following has been received at the company's office from Eureka as a report on the ores of the Williamsburg Mine by the chief smelter of the Ruby and Dunderberg Company:—The Williamsburg ore will always command a high price, owing to the lead contained in it, and I have lately discovered that it all carries gold, sometimes quite a considerable value in that metal, which materially increases the intrinsic value of the mine. Of 25 tons Williamsburg ore smelted 20 tons assayed 42 per cent. of lead, 13.30 ozs. of silver, and 40 ozs. of gold per ton, while the balance of 5 tons yielded 66 per cent. of lead, 10.90 ozs. of silver, and 55.40 ozs. of gold per ton, with a trace of gold.

**PIERREITE.**—April 9: The manager reports as follows: The No. 1 level has improved in lead ore since my last report. It yields now 11 tons of lead ore per fathom and 5 tons of blende. There is no particular change to notice in the slopes of very great importance. The No. 2 above the No. 1 level yields 8 1/2 tons of lead ore and 1 ton of blende per fathom. The No. 2 below the No. 1 level yields 10 1/2 tons of lead ore and 2 tons of blende per fathom. The No. 7 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 8 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 9 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 10 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 11 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 12 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 13 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 14 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 15 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 16 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 17 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 18 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 19 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 20 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 21 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 22 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 23 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 24 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 25 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 26 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 27 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 28 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 29 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 30 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. The No. 31 below the No. 1 level yields stones of lead ore and 2 tons of blende per fathom. 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BRITISH MINES.

DIVEST.—John Morpeth, April 13: During the last few days two of our

**GREAT DYLIFFE.**—E. Evans, April 13: In the 125, west of Bradford shaft, there is a very nice strong lode, containing a solid string of 6 in. solid lead. I sent two more men there. We are stripping down the lode, which is standing in the slide for some distance. I shall be able to say more about this next week. Other parts of the mine unchanged.

turn. It is a channel of ore ground which lies to the north of the Great Open Cast lode, and called by the miners Carreg-y-progan, and after penetrating this we may almost with certainty expect to cut the great lodes which lie to the south of this deposit. They underlie with great regularity for a great length. The tribute pitches maintain the appearance last reported, and will fully turn out the quantity estimated for the month. There is every appearance of the produce of the mine improving gradually but surely. It is opening out well at all parts. The bluestone workings look well, and the ore is of better

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**PENNANT.**—April 13: The expected improvement in the 80 is now taking place; the lode contains 9 in. of solid carbonate and splendid cubes of lead ore. A quantity of water is issuing from the forebreast, and a further change for the

**WALKHAM UNITED.**—Captain Phillips, April 13: On Saturday last four bargains were set for four weeks. The adit level east on the north tin lode to

Shaft: The ground in this end is still traversed with bunches of quartz and caper interspersed with mundic.—40 Cross-cut South: We have driven this end 2 fms. the ground in which is composed of hard peach, capel quartz, and priar, inter



persed with muddle and occasional specks of copper. A quantity of water is issuing from this end, and we fully expect another week will open up something new in this direction. At Bennett's eastern shaft on Wheel Brothers lode we are making good progress in forking the water and securing this shaft with timber.

WHEEL, GEORGE.—Chas. Kneebone, April 13: In the new adit on Trial lode we have still the same highly favourable indications for soon entering on to good deposits of lead ore. In the fuller's earth galleries we have now 150 yards in length in readiness to work horizontal chambers therefrom when required. We are putting up a rise for ventilation over the south forelead, which is going up in a peculiar and interesting vein about 4 ft. thick, 2 ft. of which is white and 2 ft. of black earth. It will depend somewhat on the quantity of alumina the latter contains as to whether we can turn it to profitable account. I will send on samples. We have commenced a cross-cut east towards the Roman lode, 50 fms. south from the last named point, which has already met their beds of the earth, but the indications here are exceeding strong for lead ore, when we reach the lode, and in addition to this we are in close proximity to the Coed Mawr Pool east and west lode. Building operations are progressing satisfactorily, and if present fine weather continue will be completed some time next week.

WHEEL LUSKY.—J. Gifford, W. Skevis, April 14: We are pushing on the cross-cut south towards the main lode by a full party of six men; ground favourable for progress and the production of mineral, and we hope to intersect the lode about the end of May next, when good results are anticipated. We shall commence costeaning for the north and south lodes in the beginning of next week.

WHEEL JEWELL.—James Juleff, April 9: Setting Report: The 70 to drive east of the engine-shaft, with six men, the month, at 77. per fathom. The lode is large, composed of quartz, white iron, and stones of yellow copper ore, with a very promising appearance. The 60 to drive east of the engine-shaft, with six men and one boy, the month, at 54. 10s. per fathom. Lode principally quartz and muddle. We will push on this end with all possible speed to intersect the cross-course. The 50 to drive west of the engine-shaft, with two men, the month, at 77. per fathom. We have met with a cross-course in this end, which has shifted the lode south. I look forward to having an improved lode to the west of this intersection. In the 50, east of the cross-course, we have put the men to take down the ore part of the lode which is standing to the south of the level and west of the winze, and so far as seen it is worth 2 tons of ore per fm., and I believe will open out an excellent piece of stopping ground between the winze and the cross-course. Set to four men and two boys, at 27. per fathom for the month. The 40 to drive east of the flooken, with four men and two boys, the month, at 47. per fathom. In this end we have cut through the lode, which is 5 ft. wide, composed of quartz, gossan, and a leader of ore on the footwall, worth 1 ton per fathom, and looking very promising for further improvement. A rise in back of the 40, west of the flooken, set to four men and one boy, the month, 27. per fathom; lode producing 1 ton of copper ore per fathom. The 50 cross-cut to drive north, to cut the Tommy lode, with four men and one boy, the month, at 67. per fathom. This cross-cut still continues in a good looking channel of clay slate.

WHEEL UNY.—Henry Eddy, William Profit, April 14: The 170 west is worth 157. per fathom, but as we have not yet seen the south wall of the lode we can only report fully its value next week. Our engine-shaft is being cut down to the 160, so as to fix permanent pitwork there previous to developing the mine in depth. No material change in the different stopes since last reported.

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### The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, APRIL 14, 1881.

IRON.	£ s. d.	£ s. d.	English, ingot, f.o.b.	90 10 0	92 0 0
Pig, 100 lb., Clyde...	2 7 6	2 7 7	" bars	91 10 0	93 0 0
" Scotch, all No. 1...	2 8 6	2 8 9	" refined	92 10 0	94 0 0
Bars, Welsh, f.o.b. Wales	5 2 6	—	Australian	57 7 6	57 10 0
" in London, 5 15 0	—	—	Banca	—	—
" Stafford...	6 10 0	—	Straits	57 7 6	57 10 0
" in Tyne or Tees...	5 10 0	—	COPPER.	—	—
" Swedish, London...	9 10 0	—	Tough cake and ingot...	65 10 0	—
Rails, Welsh, at works...	5 10 0	—	Best selected...	67 0 0	—
Sheets, ship, in London...	7 10 0	8 0 0	Sheet and sheathing...	70 0 0	72 0 0
Plates, ship, in London...	7 2 6	—	Flat bottoms...	73 0 0	74 0 0
Hoops, Staff...	7 0 0	—	Wallaroo...	70 0 0	—
Nail rods, Staff...	6 0 0	6 10 0	Burma, or P.C.C...	67 0 0	—
STEEL.	—	—	Other brands...	63 0 0	65 0 0
English, spring...	11 0 0	18 0 0	Chili bars, g.o.b...	60 0 0	60 10 0
" cast...	30 0 0	40 0 0	PHOSPHOR BRONZE.	—	—
Swedish, keg...	15 0 0	—	Alloys I, II, III, and IV...	£120 0 0	—
" fog, harn...	15 0 0	—	" VI. and VII...	135 0 0	—
LEAD.	—	—	" XI. Spl. bearing metal	112 0 0	—
English, pig, common...	14 10 0	14 15 0	BRASS.	—	—
" L.B....	14 17 6	15 0 0	Wire...	7 1/2 d.	—
" W.B....	15 0 0	15 10 0	Tubes...	9 1/2 d.	—
" sheet and bar...	15 10 0	—	Sheets...	9 1/2 d.	—
" pipe...	16 0 0	—	Yel. met. sheath. & sheets	6 1/2 d.	6 1/2 d.
" red...	16 15 0	—	TIN-PLATES.*	—	—
" white...	21 10 0	23 10 0	Charcoal, 1st quality...	1 2 0	1 4 0
" patent shot...	17 15 0	—	" 2nd quality...	0 18 0	0 19 0
Spanish...	14 2 6	14 7 6	Coke, 1st quality...	0 18 0	0 19 0
Metals, per cwt...	15 0 0	16 0 0	" 2nd quality...	0 16 0	0 16 6
Ore, 10 per cent. per ton...	20 0 0	25 0 0	Black...	15 10 0	—
QUICKSILVER.	—	—	Canada, Staff, or Gla...	12 0 0	—
Flasks, 75 lbs., war. (nom)	6 5 0	—	Black Taggers, 450 of	30 0 0	—
SPELTER.	—	—	14 x 10	—	—
Hessian...	15 10 0	15 15 0	—	—	—
English, Swansea...	16 5 3	—	—	—	—
Sheet zinc...	20 0 0	21 0 0	—	—	—

\* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more for 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The same dull, quiet, inactive, and languid feeling which we have had to report during the last few weeks still characterises almost every branch of the Metal Trade, consequently again there is very little alteration to record. Apparently there is scarcely any eagerness on the part of sellers to press sales, and, if anything, still less inclination is manifested by buyers to effect purchases, and both these circumstances are somewhat remarkable, for with regard to sellers there is said to be all round a scarcity of orders, and manufacturers for the most part fail to secure enough contracts to enable them to keep their mills going full time, while any indication of any perceptible increase in the demand continues void. Then, with reference to buyers, it is not a little surprising that the present low rates form no stimulus to buying, either for legitimate or speculative account. The near approach of the Easter vacation may, perhaps, to some extent have checked business, although trade generally at the present time is exceptionally slack that this cause would not appear to have occasioned much influence. Under this monotonous state of affairs the Easter recess this year will, doubtless, be a relief, as it is extremely unsatisfactory to the whole trade that the depression should continue for so long a period, and it is to be hoped that when business is resumed after the holidays it will be upon a larger and more expansive scale, and that the whole trade will be benefited by the long repose which it has been enduring, and that buying may become more and more spirited, both for consumption and shipment, and that a higher range of prices may shortly be established, not that the present appearances indicate any great prospect of so bright and rosy a change speedily taking place; but yet it does seem likely that those causes which have been most prominent in retarding business during the past few months are only of a temporary and not of a permanent character, for although the uncertainties which still overhang commerce are, perhaps, sufficient to paralyse trade for the time being, and to fully account for the existing dullness, yet there does not appear any reason for despondency, for looking at one of the chief impediments—the quietude in the American demand, and we have, according to reports, symptoms of recovery from the lethargy into which the trade of America had fallen, while credit throughout

the whole of the prolonged inanimation is said to have remained exceptionally good, and of course would, therefore, be strengthened by the signs of approaching improvement, and a new trade in that country is stated to have recovered, the natural inference that can be drawn is that it cannot fail to produce a healthy result upon our markets here, especially when it is remembered that present prices are extremely moderate, thereby giving our manufacturers and producers a greater chance of obtaining any orders that may be offering on account of their being able to compete the more favourably with foreign competitors.

COPPER.—This market remains quiet, the amount of business doing being on a very limited scale. Prices for Chili bars have receded to the extent of about 10s. per ton, but at a meeting of yellow metal manufacturers yesterday it was resolved to advance the price of braziers to 64d., and sheathing has also been advanced to 64d. per pound. Orders from abroad, especially India, are extremely limited, and but little business is reported for home consumption, consequently the stagnation, of which for so long past there has been so much complaint, continues to characterise the market, not only so far as its legitimate aspect is concerned, but speculation in copper appears also to have become a thing of the past, and the improved statistical position of this metal, to which reference has before been made in these columns, has produced no benefit or even favourable influence upon prices, although the good reduction in the stock has necessarily formed some considerable relief to the market, for according to return the visible stock has not been so light as on the 1st inst. since the latter part of 1879. It is, therefore, not a little surprising that there should be so little eagerness manifested by operators to effect purchases, and it can only be accounted for by the prolonged dullness in trade generally, and when this revives, or, perhaps, merely shows symptoms of revival, the present inactivity will not unlikely be succeeded by inflated buying; for not only is it customary for excitement to follow seasons of depression, but there is now reduced stock, which can hardly fail to produce a favourable effect upon the market when the present quietude in the trade ceases to exist. The chief point, then, which is most worthy of consideration is to discover the length of time it will require ere a resuscitation in business occurs, and this cannot better be done than by referring to the supplies which of late have been made to consumers and shippers; and as these latter especially have been buying very sparingly, it does not seem at all probable that this branch of the trade, at all events, can remain in the same inanimate condition as now prevails much longer. The monthly returns of Chili produce show a slight reduction in the total visible stock in first and second hands in Liverpool and Swansea amounting on the 13th inst. to 32,164 tons, against 32,391 tons on the 31st ult. The imports of Chili produce during the first half of this month have been 949 tons, and the deliveries 1176 tons, both of which are considerably less than those for the corresponding period of last year. The Board of Trade Returns show the total imports of copper during the first three months of this year to have been 19,630 tons, against 24,659 tons for the same time last year, and 23,840 tons in 1879, while the exports for similar periods have been 13,541 tons this year against 15,754 tons in 1880, and 14,802 tons in 1879. According to advices from New York of the 2nd inst. it is reported that the demand for Lake ingot copper has been light, and the market remains quiet on the basis of 19 1/2 c. to 19 3/4 c. for dealers' lots, and 19 c. for round parcels, although a contract is said to have been settled this week on the basis of 18 1/2 c. Baltimore, 18 1/2 c. to 18 3/4 c.

IRON.—This market keeps in an almost lifeless condition, orders are extremely scarce for all descriptions of manufactured as well as for pigs, and the reduced prices lately effected for most kinds seems so far to have produced no impetus to buying whatever, and business is still curtailed to within very limited dimensions. It does not, however, appear to be so much the present price which is the cause of the great quietude in the demand, although it is difficult to account for the pronounced inactivity in the trade in all its branches. The slackness in the demand for pigs may perhaps be attributed to the over production, but yet this does not appear the sole cause, for it can only affect the speculative demand, and in no way detrimental to the bona fide demand—in fact, on the contrary, it would tend to stimulate legitimate business, in so far that there is a greater probability of reduced prices being obtained in the future, especially in the case of a marked absence not only of orders, but also of enquiries. With India there is little doing, with America transactions are very limited, while to other countries an exceptionally small quantity of iron is being exported. There is very little request for Swedish iron, and prices are somewhat easy, while the re-opening of some of the Swedish ports will probably tend to increase the supply, which would necessarily have an adverse influence upon prices, unless some recovery quickly takes place in the demand, which, however, at the moment does not appear very probable. An account of a stronger disposition having been manifested on the Glasgow market to sell prices have given way to 47s. 10d. and 47s. 10d. Opening on Monday at 48s. 3d. the price soon gave way to 47s. 10d. and on Tuesday business was done chiefly between this lower figure and 47s. 10d. cash, while on Wednesday the market further receded to 47s. 7d., 47s. 3d., closing at the worst, and to-day the market has been steady at 47s. 6d. to 47s. 7d. The shipments last week were 10,647 tons, against 18,309 tons for the corresponding week of last year, or a reduction of 7662 tons, and which makes the total shipments for the whole of this year 131,956 tons, against 224,276 tons for the same time last year, and 135,425 tons for the similar period of 1879. The number of furnaces in blast continues at 121, while the public stock has been still further increased to 544,268 tons, against 541,095 tons last week, or an increase of 3221 tons. The imports of Middlesbrough pig iron into Grangemouth last week were 3934 tons, against 2185 tons for the same week last year, or an increase of 1749 tons, and which makes a total increase this year upon last of 12,803 tons. At the quarterly meeting at Middlesbrough last Tuesday a very unsatisfactory amount of business was transacted, the demand being much restricted, while the dullness which has been so prominent upon this market of late has, if anything, become still more apparent. Little iron has changed hands, and the nominal quotations for No. 3 prompt delivery is 38s. 3d. sellers, and 38s. buyers, 9d. to 1s. more being asked for forge iron. Connal's stock in this district, at Glasgow, continues to increase, being 1473 tons heavier than last reported, and now amounts to 163,276 tons. Shipments are not so good as they have lately been, smaller quantities having been sent to the Continent, as well as to Scotland. There is no improvement in the demand for manufactured, while prices tend in buyers' favour. Ship-plates are offering at 61s. bars at 54s. 5s., and angles at 54s. 5s. to 54s. 7s. 6d. Shipbuilding continues fairly brisk, which appears to be the only feature that can be reported in favour of the market. At the quarterly meeting at Wolverhampton yesterday prices all round were quoted lower. Hot blast Shropshire pigs are offering at 55s. and cast blast at 56s. or a 10s. 6d. the quarter. Hematite, however, is strong at previous rates, although no business is reported. The quotation for Tredgar sorts is 67s. 6d. per ton, and Barrow hematites 70s. per ton. With one or two exceptions, the fall in marked iron of 10s. per ton has become general, leaving the present price at 77. There is but a small amount of business being carried through on the Sheffield market, buyers generally holding off in the hope of being able to purchase more advantageously hereafter. A moderate business is doing at the various plate mills, but at other works there is hardly anything doing. Air demand exists in the Welsh market, but prices are very unsatisfactory to sellers; nevertheless, several of the works keep regularly employed, which masters look upon as sufficient compensation for the unfavourable prices they are able to realise. According to a despatch from New York of the 3rd inst., a steady demand is said to prevail on the market, but Scotch pigs are lower, No. 1 Gartsherrie and Glangarock being quoted at £22 50, Coltness £24, and Eglington £20 50, being a fall of 6s. on the last named brand, and 2s. on the others. Scrap iron and old rails continue without variation either in the demand or price, and are both quoted at £27 50.

TIN.—Business in this metal keeps very limited, and prices show a drooping tendency, although no very material change for the worse has to be reported. It seems, therefore, evident that although slight concessions are at times made, yet the general disposition is to hold rather than to press sales, and thus knock down prices without anything particular existing of a character to necessitate such an unprofitable course to holders, and especially when it is remembered that the present quietude in the trade does not arise so much from any material falling off in the legitimate demand, nor from any increased supply, but rather from the absence of speculation; and taking all things into consideration, it seems that the prevailing dullness is caused, and appears greater than perhaps it really is, owing to the great activity which prevailed some short time back in the speculative demand; and, therefore, the worst that can be reported as regards the state of this market at the present time is that it is only comparatively dull, and apparently need not cause any particularly anxiety to holders.

LEAD.—This market keeps extremely dull, and notwithstanding that prices continue in buyers' favour yet there is no disposition whatever manifested to effect purchases; but, on the other hand, buyers appear more inclined to limit their orders to their most urgent wants.

SPELTER.—The marked inanimation in this trade, which has been so pronounced for so long past, continues the chief characteristic feature, and prices are still unimproved.

STEEL.—There is not much business doing excepting in rails, in which a moderate number of transactions are reported.

TIN-PLATES.—Prices continue strong, but business for the most part is much curtailed.

QUICKSILVER.—The price continues unaltered at 67. 5s.

MESSRS. HARRINGTON, HORAN, and Co. (Liverpool, April 13) write:—We have no news of charters by cablegram to mention since our last report. During the fortnight the Chili bar market has been in a lethargic state, and a limited business has been transacted at 60s. 7s. 6d. to 61s. 12s. 6d., according to brand and prompt. There has been a good business done in Australian copper, about 1400 tons Cobalt having been disposed of on private terms, partly to smelters, and partly for India. It is reported that a considerable quantity of Lake Superior copper has been taken by French buyers, particulars of which so far have not transpired. The sales of furnace material only comprise 170 tons Chili regulus to arrive here at 12s. 6d., 70 tons of Peruvian ore at 12s. 6d., 70 tons English precipitate at 12s. 7 1/2 d., and the Swansea sale by tender on 5th inst. 1920 tons ore, average produce 9 1/2 per cent., realised 11s. 8d. per unit. Import of Chili copper during the past fortnight 949 tons, against 1584 tons same time last year. Delivery of Chili copper during the last fortnight 1176 tons, against 2008 tons same time last year. Arrivals here during the fortnight of West Coast (S.A.) produce are—Magellan (s.), from Valparaiso, &c., 70 tons ore, 125 tons bars, and 120 tons ingots. At Swansea—Edgar, from Lota, 704 tons bars.

Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool...	—	—	18,849	499	—
Swansea...	—	2015	11,809	—	—
Total...	—	2015	30,758	499	—

Representing about 32,164 tons fine copper, against 32,391 tons March 31; 32,586 tons April 15, 1880; 29,147 tons April 15, 1879; 18,692 tons April 15, 1878. Stock

of copper contained in other foreign ore and Spanish precipitate, 1790 tons fine, against 1787 tons April 15 1880. Stock of Chili bars and ingots in Havre, 3828 tons fine, against 3212 tons April 15, 1880. Stock of Coro Coro barilla in Havre, 213 tons fine, against 60 tons April 15, 1880. Stock of copper other than Chili in Havre, 514 tons fine, against 533 tons April 15, 1880. Stock of Chili copper adroit and chartered for to date, 13,600 tons fine, against 18,500 tons April 15, 1880. Stock of foreign copper in London, chiefly Australian, 8700 tons fine, against 5400 tons April 15, 1880. According to the Board of Trade Returns the total imports and exports into and from this country for the first three months of the following years were—

	1879.	1880.	1881.
IMPORTS.			
Copper in ores .....	2,464	3,220	1,937
Copper regulus and precipitate .....	6,371	6,262	7,099
Bars, cakes, and ingots .....	11,897	10,574	7,170
In pyrites (estimated) .....	3,308	4,603	3,424
Total .....	23,840	24,659	19,630
EXPORTS.			
English copper, wrought and unwrt. Tons .....	7,359	7,561	7,870
Foreign copper, unwrought .....	3,570	4,523	2,048
Yellow metal .....	3,873	3,670	3,823
Total .....	14,802	15,754	13,541

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, has been in Bahia, 17 1/2 to 18 1/2; Bombay, 5 1/2; British, 33 to 35; Brighton and Hove, 34 1/2; Commercial, 181 to 185; ditto New, 135 1/2; Continental Union, 21 1/2; Crystal Palace District 7 percent., 129; European, 19 1/2 to 19 3/4; Gaslight, A, 17 1/2 to 18; ditto, C, 10 percent., 210; ditto, H, 7 percent. max., 130; ditto, 4 1/2 percent. debentures, 109; London, 189 1/2 to 190 1/2; Imperial Continental 190 1/2 to 194 1/2; Monte Video, 14 1/2 to 17 1/2; Oriental New, 5 1/2; Rio de Janeiro, 25 to 25 1/2; South Metropolitan, B, 174 to 176. Gas stocks firm. For closing prices see list on the last page of Journal.

INSURANCE SHARES have, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance British and Foreign, 38 1/2; Commercial Union, 25 1/2; Guardian, 76 1/2 to 77; Fire 4 1/2 to 4 3/4; English and Scottish Law Life, 63 1/2; Lion Fire, 3; ditto Life, 2 1/2; North British and Mercantile, 65; Ocean, 8 1/2 to 9 1/2; Marine, 110 1/2. Insurances steady. For closing prices see list on the last page of Journal.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. Abbott, of Tokenhouse-yard, are given in tabular form in the 12th page of Journal.

The settlement of the fortnightly account has again occupied the chief attention of the dealers in the MINING SHARE MARKET, and the near approach of the Easter holidays has prevented the opening of fresh accounts; so that, on the whole, the market has been dull, and prices, with very few exceptions, are lower.

As the market closes on Thursday, many of the reports which usually come on Friday may be missing this week. The mines dealt in have embraced Van, East Roman Gravel, Wheel Crebor, Wheel Peavor, South Frances, Prince of Wales, Bedford, East Blue Hills, East Lovell, New West Caradon, Phoenix, West Basset, and others.

TIN MINES have fluctuated, and on the whole have been weaker since our last. One or two, however, have advanced in price, and particularly Wheel Agar. Blue Hills, 3 1/2 to 3 3/4. Carn Brea, 130 to 135; at the meeting to-day the accounts showed a profit of 3880s. and a dividend of 17. 10s. per share declared. Dolcoath, 55 to 57; Cook's Kitchen, 12 to 13; East Lovell, 3 1/2 to 4; East Pool, 35 to 37; Phoenix, 3 1/2 to 4; South Endurrow, 9 1/2 to 10; South Frances, 10 to 11; Tincroft, 18 1/2 to 19 1/2; Polrose, 15s. to 20s.; West Frances, 12 to 13; West Peavor, 16 to 17; West Phoenix, 1 1/2 to 1 3/4; Wheel Agar have advanced to 10 1/2 to 11 1/2; Wheel Basset, 5 1/2 to 5 3/4; Wheel Grenville, 8 to 9; Wheel Jane, 8 1/2 to 9; Wheel Jewell, 8 1/2 to 9; Wheel Kitty St. Agnes, 2 1/2 to 2 3/4; West Blue Hill, 1 1/2 to 1 3/4; Wheel Peavor, 17 to 18; at the meeting a dividend of 10s. per share was declared; the accounts showed a profit on four months' working of 1503s. and a credit balance of 2186s., out of which the dividend of 1500s. was paid. The costs were—labour, 4040s.; merchants' bills, 1511s.; dues, 361s. The tin sales, 132 tons, realised 6738s.; this quantity the agents reported was less by 25 tons than it would have been but for the weather, and they hoped to return a more satisfactory quantity in the coming four months; the shaft has been sunk 3 fathoms below the 90, and in about two months, it is hoped, the junction will be met with. West Basset, 15 to 16; at the meeting here the accounts showed a profit on three months' working of 1550s., and a credit balance of 1747s., out of which a dividend of 5s. per share (1500s.) was declared. The tin sold, 216 tons, realised 10,664s.; the agents hope to increase upon this quantity in the coming quarter; the mine on the whole has much improved. West Kitty, 3 1/2 to 4 1/2; the 60 fathom level is reported worth 30s. per fathom, rise in back of 60 20s., 72 east improving. New Kitty, 1 1/2 to 1 3/4; the engine will be started on the 20th. West Polbreen, 1 1/2 to 1 3/4; Wheel Sisters, 1 1/2 to 2; Wheel Uny, 2 1/2 to 3; Wheel Coates, 1 1/2 to 1 3/4; New Trumpet, 2 1/2 to 3; New Peavor, 1 1/2 to 2 1/4.

COPPER MINES have only been moderately dealt in, and prices remain about the same as last week. Bedford United, 2 to 2 1/2; Carnarvon Copper, 1 to 1 1/2; Devon Great Consols, 1 1/2 to 1 3/4; South Devon United, 2 1/2 to 3; East Caradon, 20s. to 22s. 6d.; Marke Valley, 1 1/2 to 1 3/4; East Crebor, 10s. to 15s.; Gunnislake (Clitters), 4 to 4 1/2; Hingston Down, 1 to 1 1/2; Mellanear, 5 to 5 1/2; New West Caradon, 10s. to 12s.; New Cook's Kitchen, 6 1/2 to 7. Wheel Crebor, 4 1/2 to 4 3/4; the report this week shows one or two improvements, and the points in operation are valued in the aggregate at 320s. per fathom. Morfa Du, 3 1/2 to 4; the accounts issued for the meeting show assets over liabilities 856l. 16s. 1d., exclusive of 2383 unissued shares. The sales of bluestone since the last meeting realised 1033s. 13s. 6d., and the directors have concluded a further sale of 1150 tons, so that with a return of 150 tons a month a fair profit will be realised. The whole issued capital of the company is only 8867l.

Parys Corporation, 15s. to 17s. 6d.; the accounts issued for the meeting show assets over liabilities of 1856l. 18s. 11d., in addition to ores unsold, but upon which costs have been paid, amounting to 2000l. The ores sold have realised 3986l. 6s. 6d. The loss has been about 150l. per month, but a great deal of the expenditure has been for exploratory works, so that should copper advance the returns could be doubled. The shares issued have only been 33,507. Prince of Wales, 15s. to 17s.; West Caradon, 15s. to 20s.; West Crebor, 8s. to 10s.; West Seton, 20 to 22. Sortridge Copper, 1 1/2 to 1 3/4; the agent writes that the lode west of the cross-course shows that they are near a great discovery. Mona, 12 to 13; at 4:30 this afternoon a telegram was received at the office:—"The 90 end west very much improved to-day—2 ft. copper ore."

LEAD MINES, with one or two exceptions, have been weaker, and not much business doing. Vans have further declined to 9, 10; East Vans, 1 1/2 to 2. Great Laxey, 17 to 18. The directors have declared a dividend of 6s. per share, free of income tax. D'Eresby Mountain, 40 to 50; Roman Gravel, 13s. to 13 1/2. The lead ore, 100 tons, realised 982l. 10s. The lode in the 110, north of old shaft, is worth 15 tons of lead ore per fathom. Coed-y-Fedw, 1 to 1 1/2; Glenroy, 3 to 3 1/2; Caron, 1 to 2; Fronclog, 4 to 4 1/2; Grogwinn, 2 1/2 to 3; New Wye Valley, 1 to 1 1/2; Ystwith, 3 to 4 1/2; Red Rock, 1 1/2. This mine had sampled 30 tons of lead. Gorsedd and Merilyn, 3 to 3 1/2; Great Holway, 5 to 5 1/2. The two stopes in the 60 are worth together 8 tons of lead ore to the fathom. Goddard's, 1 to 1 1/2; Herodsfoot 3 to 4; Lead Hills, 2 1/2 to 2 3/4; North D'Eresby, 1 1/2 to 1 3/4; North Herodsfoot, 3 to 3 1/2; Gwydwyr Amalgamated, 3 to 4; Great West Chiverton, 4 to 4 1/2; Pennant, 4 1/2 to 5; Pen-yr-Orsedd, 1 to 1



1½ to 2½; Eureka (Nevada) Silver Mining Company, ½ to ¾ prem.; Kapanga, ¾ to 1; Hultafall, 2 to 2½; Devala Moyar, 2½ to 3½; Indian Trevelyan, 1½ to 1¾; Indian Phoenix, 1½ to 2.

The Market for Mine Shares on the Stock Exchange has been particularly animated during the week, notwithstanding the interference with business caused by the approaching holidays. New enterprise continue to receive the hearty support of capitalists, for the promoters of those last put forward express themselves well satisfied with the number of applications received. The directors of the Sortridge Copper Mines Company, which had announced that the share lists would close to-morrow, wisely determined to receive applications for another week. The name and reputation of the mine has sufficed to secure a large number of subscribers, but the thoughtlessness of limiting the time to a week—and that week broken by holidays and settlement—has become so obvious that the change was absolutely necessary. Tin miners will be gratified to learn that a system of electro-coating tin plates (advertised and referred to in other columns), introduced by Mr. Wm. Elmore, of Blackfriars-road, is considered calculated to increase the consumption and consequently the price of tin, although the weight of tin used on each plate will be somewhat diminished. The uniformity and brilliancy of the plate is so much greater than tin-plates will come largely into use for purposes for which they have not hitherto been thought of. Mr. Elmore purposes to fit up at the tin-plate makers' establishment, at his own cost and expense, all the dynamo-electric machines, tanks of depositing solution, &c., necessary for the amount of work which it is desired to accomplish; and instead of making any sale of such plant or any first charge, simply to charge a reasonable royalty upon the weight of tin actually used (reserving a minimum). Such a course, if adapted, would make the change of system one of nominal expense and mutual advantage.

Indian Gold Mine shares have been the chief attraction all the week, and it is not improbable that as soon as the holidays are over there will be a regular mania for them. This encouraging state of affairs is attributable to the receipt of gratifying advices from India announcing that at the Alpha Gold Mine, belong to the (Glasgow) Indian Gold Mines Company, they have commenced crushing, and already obtained a yield of gold far beyond expectations. The exact ley of the ore, of course, cannot be known until the clean up, which will take place in about three weeks, but it is confidently stated that it is at least 25 oz. to the ton. The 100 shares were a week since obtainable at 300. each, but this telegram has produced so favourable an influence in the market, that the price at once sprung up to 500. This improvement has not been without its effect upon the market for Indian Gold Mine shares generally, which have been freely dealt in at better prices. And it is the more encouraging that good news comes from Mysore as well as from Devala—equal energy being displayed in both districts. The Colar Company have received an interesting report from their superintendent, Dr. Atcherley, who, it is stated, has the assistance of captain Roach as mining captain, and of five skilled English miners, with an adequate supply of native labour. Considerable quantities of machinery, tools, stores, &c., have arrived at the mines, and two batteries of elephant stamps are either at the mines or on the point of being delivered there. It is stated that the Colar Company have favourable reports on the land immediately adjoining, and which the company has secured the right of purchase, and that the directors have determined to complete purchase, and are sending copies of the reports to the shareholders; in fact, nothing could be more encouraging than the reports from the Mysore gold fields. The more work done the more satisfactory and encouraging are the reports, and the facts proved. The closing quotations of the principal shares of this class are—Devala Central, 1½ to 1¾; Devala Moyar, 2½ to 2¾; Devala Provident, 2½ to 3; Indian Glenrock, 2½ to 2¾; Indian Phoenix, 1½ to 2; Indian Trevelyan, 1½ to 1¾; Mysore, 1½ to 1¾; Mysore Reef, 1½ to 1¾; Rhodes Reef, 1 to 1½; South East Wynad, 1½ to 2; South Indian, 3½ to 3¾; Wynad Perseverance, 1½ to 1¾.

The Sortridge Copper Mining Company, the prospectus of which was published in last week's Journal, has had so favourable a reception from the public that its success is assured; indeed, the shares are already quoted ¼ to ½ prem. in anticipation of the reduced number that will be allotted, as compared with the number applied for. The company will have the advantage of working on discovered lodes which have yielded immense wealth, yet in ground which has hitherto remained almost untouched—that is to say, the last company obtained their returns altogether from the east side of a cross-course which crosses the lode, and they did nothing to the west of it; but the lode has now been found there, composed of an exceedingly fine gossan containing rich copper ore, though only within a few feet of the surface, and there is every indication that large and valuable deposits will be found at a comparatively shallow depth like those formerly met with under the gossan on the other side of the cross-course, and under similar circumstances, in the original great discovery at Devon Consols and elsewhere, and the prospectus also remarks that there are other promising lodes of both copper and tin in the sett, particularly a large tin lode, on which there are extensive old workings (the deepest point being only 20 fms.), and of which the lessor has himself sold about 6000. worth during some very limited operations carried on by him in the last few years; but the last company worked only the main copper lode, and did nothing to the others. The board of directors is composed of gentlemen of great experience in connection with the management of mines, and as the sett has been obtained on unusually favourable terms—the company are to pay no royalty until they have sold 60,000. worth of ore, and then only one-twentieth—they will have ample opportunity of making their energy and experience yield good results. It had originally been determined to close the list of applications to-morrow (Saturday), but in compliance with the representation made to the directors as to the interruption of business occasioned by the Stock Exchange settlement this week, and the intervention of the holidays, it has been decided to keep the list open a week longer—until Saturday next.

The Norway Copper Mines Company has been formed, with a capital of 75,000. to purchase for 30,000. valuable copper mining concessions and mines now in operation on the islands of Halsnön and Radön, in Norway, about 15 English miles north of the port and town of Bergen. The capital is divided into 60,000 10 per cent. preference shares of 1. each, and 15,000 deferred shares of 1. each, the latter being taken by the vendors. The holders of the deferred shares are not to receive any dividend until the 10 per cent. has first been paid on the preference shares in each and every year (cumulative). The surplus net profits are then to be divided—40 per cent. among the preference shareholders, and the balance among the deferred shareholders. From the reports accompanying the prospectus, which will be found in another column, it will be seen that this is an exceedingly rich copper property, comparing most favourably with important old established mines on the same coast, such as Viknes, &c., which have returned large dividends to the proprietors for many years past. Several important lodes exist on the property in close proximity to each other, some of which converge at the Adelaide Mines—the principal point of present operations—where the main shaft has been sunk on the lode to a depth of over 100 ft., and about 200 tons of ore, yielding from 5 to 25 per cent. of copper, and averaging 8 to 10 per cent., is now lying on the surface. The works at this shaft are in full operation as the present machinery and plant will allow, and as the reports point out, the lode is increasing in size and richness with every fathom in depth. The veins of ore on both sides, as stated in the reports, in all probability will be found to meet in depth, so as to form a very powerful lode, which would naturally add very materially to its productive capacity. The properties have been inspected by Messrs. R. Nelson Boyd, H. J. Geelmuyden, and Jackson and Butterfield, and their reports, which are very favourable, are appended to the prospectus. It is mentioned that owing to the great extent of this property, and the facilities for opening up, the mines can be easily worked at many points at the same time; but even with an outlay of 10,000. for providing additional machinery and appliances it is estimated from the results already obtained that about 400 tons of ore can be shipped in each month within a period of from 12 to 18 months from the commencement of the company's operations, but inasmuch as pay ground is already reached, and valuable ore is being daily raised, immediate profits can be realised. Under the above estimate the profit on the 400 tons should amount to about 3000. per month, or, allowing for lead work and explorations underground, (say) 2500. net, equal to about 30,000. per annum. The list of application for shares will open to-morrow, and close on the following Saturday.

The Anglo-American Agricultural Company list of applications for shares closes to-morrow (Saturday), intending investors should therefore, post their applications at once. It is understood that the company has received ample support.

Devon Great Consols, 12 to 13, and in demand; the 175 end west has further improved to 5 tons of copper ore and 3 tons of mundie, and, as the manager states in his report in another column, is an important point of operation in driving in this direction.

Devon Great United, 2½ to 2¾; good indications of meeting with a course of ore in the bottom levels appears likely soon to be met with.

Kit Hill Great Consols, 1 to 1½; there have been good buyers of these shares this week; a report appears in another column from the manager.

South Devon United, 2½ to 3½, and in improved demand; an excellent report of the mine appears amongst the mine agents' reports.

Walkham United, 1½ to 1¾; it is stated that four points have been

set to drive, and operations are being pushed on rapidly for developing the tin and copper lodes traversing the property.

Richmond, 17½ to 18½; the usual telegram from the mines at Eureka, Nevada, states that the week's run was \$47,000, from 835 tons of ore. During the week the refinery produced doré bars to the value of \$45,000. The manager (March 24) reports that the drift from Lizette tunnel cross-cut has been extended 28 ft. in favourable ground. The 200, north from cave, has been advanced 30 ft. on a well-defined fissure and broken ground. The 500 winze has been sunk 10 ft. below the 1000 ft. level to explore on the quartzite. The ore found in the rise from the 600 cross-cut drift has been opened on 20 by 10 ft., and looks very favourable. The furnaces are smelting the average quantity of fair grade ore.

Ruby, 9½ to 10; the weekly report and telegram give the usual progress, which, so far, may be considered satisfactory. It should, however, not be forgotten that much money must have been expended in developing the mines, and dividends may not be forthcoming, although earned, so soon as shareholders may anticipate.

Sentein, 1½ to 1¾; it is now said to have been definitely settled that the future management of the property will be in the hands of Messrs. John Taylor and Sons. The mine is reported to be opening out richer than was ever even anticipated, and the future returns of silver-lead and blende will be considerable. Another correspondent writes that "large transactions have taken place in these shares, in anticipation of a rise, owing to the change of management." It is also stated that "further important discoveries of lead and blende have been made, and that it is within the scope of probability that during the current year the returns will be increased to 1000 tons of ore monthly."

Missouri, 10½ to 11; in consequence of the illness of the underground foreman the usual measurements of work done at the mines have not been made up and forwarded this week. Letter dated April 1 states that St. Clair shaft has been further sunk 22 ft.

Hultafall, 2 to 2½; it is reported that the company's mines are producing large quantities of ore, and a cargo of silver-lead will be ready for shipment by the end of next month.

Michipicoten, 1½ to 1¾; Captain Opie and staff sail on Thursday next for the mines, and a large portion of the machinery will be shipped by the same Allen steamer. The managing director in Montreal has purchased a Diamond drill, steam saw-mill, and other appliances for an active campaign in practically working the deposits of native copper owned by the company.

Flagstaff District shares are in increasing demand. The allotment letters were posted on Thursday, and the certificates in exchange, therefore, will, we understand, be ready in a very few days. In the meantime steps for getting the mine into immediate and active working are receiving their full attention.

In lead mine shares, probably owing to the large amount of attention absorbed by the Indian gold mines, there has been comparatively little doing, and prices are generally lower; there are, however, one or two exceptions.

Roman Gravels, 13 to 14; the report of the manager in another column shows the great value of this property.

Tankerville, 3 to 4; good progress has been made in pumping out the water of Bog and Pennerly Mines.

Goddard's Lead, 1 to 1½; it is stated that arrangements having been made for privately placing a considerable number of the shares, the list will remain open for applications for a short time only.

In consequence of the large number of applications in the Gold Mining Trust Company (Limited), and the intervention of the Easter holidays, it is expected that the allotment cannot take place until Wednesday next.

In reply to several inquiries as to the date fixed by the Stock Exchange Committee for the special settling day in East Wheel Rose shares, it may be stated that none has yet been appointed.

The gross actual earnings of the New York, Pennsylvania, and Ohio Railroad Company for February amount to \$398,268, against \$384,982 for the corresponding period last year. The net earnings, after deducting all charges, rents, &c., amount to \$9413, against \$77,198 last year, showing a decrease of \$67,785, making a net surplus for the two months of \$47,581, against \$118,284 last year. The earnings this year have been very adversely affected by the prevalence of storms and hurricanes.

At the Stock and Share Auction Company's sale, on Tuesday, at their rooms, Crown Buildings, Old Broad-street, the following were among the prices obtained:—Silver Peak Mining (1. fully paid), 19s.; Chester Tramways (10. fully paid), 5l. 5s.; Yarmouth and Gorleston Tramways (10. fully paid), 2l. 15s.; Indian Queen's Consols (1. fully paid), 1l. 10s.; Pioneer Mining (1. fully paid), 15s.; Silver Hill Mining (1. fully paid), 1-32 prem.; New Zealand Land Corporation (10. fully paid A Preference shares), 8l. 15s.; Orient Steam Navigation, 10l. (3l. paid), 7l.; Orient Telephone, 1l. 5s. (2s. prem.), 5s. Other miscellaneous shares fetched fair prices.

RAILWAY AND GENERAL MARKETS.—Referring to the course of business done to-day during official hours (11 to 3) Mr. Ferdinand R. Kirk, 5, Birch-lane, writes:—Opening: Little Turks can be sold at 14½, a price hardly seen since 1878. Ottoman Bank shares have reached 16l. After a long period of neglect, during which purchases at 13½ have been made with ease, Mexican New are in strong demand, and the price 17½ to 17¾. Brighton, A. Caledonian, and North-Eastern are each ¼ lower. Ruby shares are verging on 10l., price being 9½ to 9¾; Reading, 32½ to 32¾; Erie, 43¼ to 43½; Pennsylvania, 47½ to 47¾. Closing: Turks are ½ easier, while Ottoman Bank shares are up to 15½. In home railways almost the solitary improvement is in Great Eastern, which have advanced ¾. Brighton, A. are ½ down. Glenrock, 2½ to 2¾; South Indian Gold, 3½ to 3¾. It is reported at the Carn Brea meeting to-day a dividend of 30s. per share was declared.

SORTRIDGE COPPER.—Captain Skewis reports that he is exceedingly pleased with the prospects of the lode at the cross-course, the second pit opened on the lode showing that a great discovery is near. He adds: "This is a fine property, and will eventually prove one of the best and most productive mines in our district. What has hitherto been done here by the former company is only preliminary to a more extended development of the lodes, which are certain to prove rich in the course of working, and will redound to the credit of all parties connected with it." Further particulars of the company (which we are informed, has been very favourably received on the Stock Exchange) will be found in another column—in our advertisement pages. The list for applications closes on April 23.

DEVON FRIENDSHIP.—The statutory meeting of this company was formally held on Wednesday, but owing to the regretted absence through illness of the Chairman, Mr. J. H. Murchison, it was decided to hold another meeting a few weeks hence to receive from him the statement as to the position and future prospects of the company, which could not be so well given by anyone else; as, independent of the attention he has devoted to the mines, his intimate acquaintance and long connection (about 30 years) with the Tavistock district give a special importance to his remarks. From the few observations made by Mr. York, who occupied the chair at the meeting, it is satisfactory to learn that the works for increasing the output are being rapidly pushed on, and that vigorous steps are being taken for developing the parallel lodes to those which made the mine and district one of the most famous in the annals of this successful districts: 150 tons of arsenic have been sold at good prices, and a further parcel will be ready by the end of the month. Next month a parcel of tin will be sampled. There is little doubt that the account which Mr. Murchison will have to give, and which will be awaited with interest, will prove highly gratifying to all concerned.

WHEAL BASSET.—The great advantages of good boring machinery over ordinary manual labour has been demonstrated in this mine. At the 112 fathom level a cross-cut has been driven 90 fathoms north in about seven months. The extent of the cross-cut is now about 110 fathoms, and has reached the capels of the flat lode, which at the angle of the inclination may be 10 or 15 fathoms wide. The footwall of the lode is looked forward to with great interest.

POLLADRAS MINE.—The engine-shaft is now down to the 100, and next week a cross-cut will be commenced at this depth to intersect the Margaret lode, which it is expected will be cut in about 4 or 5 fathoms driving. A pair of men have been placed to clear up an old adit which was probably driven 80 or 100 years ago to intersect some of the Polladras lodes. Of course no reliable information can be obtained respecting the former working, but the rumour is current that lodes were met with in this adit, and worked as far as the then limited appliances would admit of, and the tin used to be carried away on the backs of mules. It is well known that two lodes, the Bor and Creek Marriion, which were formerly very productive in

Polladras Mine, run through this part of Polrose sett; and if the adit were driven on these lodes the clearing of the old workings may result in the development of important features. It is the general opinion of all the miners of the locality that in the southern ground through which this adit is supposed to be driven, good discoveries may be looked for.

WEST CARADON MINE.—Besides the operations on the lodes which are weekly reported, other lodes and branches are being opened upon; and since the present week's report was written it is stated that one of these branches has improved, and will now yield 2 tons of copper ore per fathom. Another important work going forward at the mine is the clearing of the 50 cross-cut, south of main lode. The finding of a lode here would add considerably to the value of the mine.

WEST MARY ANN.—At the meeting the accounts showed a debit balance of 289l. 17s. 5d. A call of 3s. per share was made.

WHEAL PEEVOR.—Considering the severe winter passed through, the results of the four months' working shown at the meeting on Tuesday cannot but be regarded as satisfactory. The profit was 1503l. 6s. 1d., and the available balance 2186l. 8s. 10d. A dividend of 10s. share was declared. The chairman remarked that the credits of this account were considerably less than they had every reason to expect at the last meeting. They knew the very severe winter they had passed through, and they would hear from the agents' report that this had made a difference of about 25 tons of tin in their returns, which really meant a difference on the credit of this account of something like 1300l.; and, had not this happened, they should have been able to give the same dividend as at the last meeting—namely, 20s. a share. The agents considered the prospects of the mine very good. The Chairman brought before the notice of the meeting the fact that since the last meeting the executive of West Peavor had asked the permission of the lords of Wheal Peavor to be allowed to drive the 16 and the 36 fm. levels from Wheal Peavor into West Peavor, on their undertaking to sink their engine-shaft not less than 10 fms. below the 36 fm. level, as per agreement dated Dec. 14, 1880, and he would move that this record of the arrangement be entered in the cost-book of Wheal Peavor. The amalgamation of West Peavor and Wheal Peavor was suggested, but it was considered premature, Mr. T. W. Michell remarking that the amalgamation could only be brought about when the shares were of equal value, and when West Peavor was laid out as Wheal Peavor was. By Midsummer West Peavor would be in a position to draw up 500 tons of stuff a month regularly.

ARENDAL.—Later reports fully confirm the splendid appearance of these mines, and the large returns of copper ore they are producing, for which ships are busily engaged to bring cargoes to Swansea and the Tyne. The quantity coming this month is 850 tons, valued probably at about 4500l. But even these good returns will be considerably increased when the additional jiggers and buddles now being erected are completed. There have been a good many enquiries during the week for shares at 3 to 3½, but as 4 is par there must yet be a good advance before many can be got. They should be at a premium.

EUREKA (NEVADA) SILVER.—The list for applications for shares in this company will be closed to-morrow (Saturday) for town, and on Tuesday for country subscribers. The shares are quoted 1½ to 1¾. The mines acquired by this company for a very small outlay having been already partially developed (showing even then favourable results) give excellent promise of turning out a very lucrative property when developments are carried on in a systematic miner-like way, and we understand it is intended this shall be done without delay; and judging from the fact that two of the neighbouring mines are now paying handsome dividends, and this property lies on the same mineral belt, we may reasonably expect to see this company in the Dividend List soon, the more so as in one of the mines—the Williamsburg—the ore carries a considerable quantity of gold, in addition to the silver and lead. In these days of large capitals an enterprise asking only for the moderate amount of 25,000. should meet with no difficulty in filling up its list of applications.

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in the 6 fm. level, from which large profits will be derived.

Adjoining the South Devon United, where during the past three weeks an ex-  
traordinary discovery of copper ore has been made, valued at £130 per fathom.  
Applications should be made without delay.

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## MINING AS A BUSINESS.

## Points to be Considered by English Capitalists, as Regards American and other Mining Investments.

Anyone who thinks of putting money into Mining can, by writing to me, have sent, post free to his address, a CIRCULAR, which will give him Valuable Points of Financial Utility, and Practical Views regarding Mining Investments generally, considered from a business standpoint.

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## COLLIERY MANAGERS' EXAMINATION.

CANDIDATES for CERTIFICATES should write for SETS OF QUESTIONS as used at the Examinations, which, with other useful information, can be given by competency. Address, "Colliery Manager," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

## Notices to Correspondents.

AN DEUTSCHEN ABONNEMENT.—Das Mining Journal, das in der Zeitungs-Preisliste der Deutschen Reichs-Postverwaltung für 1881 unter 464 Seite 150 verzeichnet ist, bei jeder Deutschen Postanstalt für den vierteljährigen Abonnementspreis von M 8.50 bezogen werden kann.

AVIS IMPORTANT.—Aux ABONNÉS ÉTRANGERS DU "MINING JOURNAL."—Le prix de l'abonnement au Mining Journal pour tous les pays de la CONVENTION POSTALE INTERNATIONALE est de 35 frs. le port compris. L'abonnement est payable par anticipation, ou par mandat postal international ou par autre mandat sur Londres. Le montant, si l'on le veut, sera touché à domicile la fin de l'année, mais en ce cas nous tirons à vue, sans avis, et sur le dos de la note. L'abonnement continuera sans avis contraire.

GERMAN SUBSCRIPTIONS.—By authority of the Imperial Postmaster General subscriptions for the Mining Journal will be received at every Post Office in the German Empire. All that is now necessary is to pay to the local postmaster 55 marks quarterly in advance, and the Mining Journal will be delivered free at the subscriber's address.

BIRMINGHAM MINES.—Will some correspondent inform me, through the Journal, where I can obtain a copy of the paper "On Somerscroft Mines," by Mr. E. Houson, referred to in the Supplement to the Mining Journal of Sept. 6, 1879. I should also be glad to learn whether there are any other standard works relating to the mines of the district, and also whether any map has been published showing the mines and their position.—T. T. R.: Cambridge.

GREAT POLYGOT.—"E. J." (Junction-road).—Not dealing in shares under any consideration, we publish all information which we receive in the Journal, so that readers may have full opportunity to judge for themselves. No business has yet been reported on the market, but if you apply to the broker of whom you purchased he will, no doubt, be able to inform you what price they at present command.

SOUTH D'ERESHY.—"H. H." (Hull).—All reports received are duly published in the Journal; we never give any opinion as to the position and prospects of mines—the reports are the best guides. The entire district has the reputation of being lumpy, but in some districts where the lumps are large satisfactory results are obtained. The quantity of work done is so small that probably not half of the lodes in existence have been ascertained.

RECEIVED.—"S. F. F." (Philadelphia)—"A. J." (Cheapside)—"C. W. E." (Bristol)—"C. H." (Dartmouth-road). The letter has been mislaid; kindly write another copy.—"P. S." (Sydenham)—"Old Reader" (Brighton)—"U. S. B."—"C. W. B." (Sortridge Consols): Personal knowledge is such matters is not to be expected.

THE MINING JOURNAL.  
Railway and Commercial Gazette.

LONDON, APRIL 16, 1881.

## BORING OPERATIONS, AND MECHANICAL BORERS.

Not much improvement has, so far, taken place in the art of boring in this country, and in that respect we seem to be considerably behind our continental engineers, who appear to have paid a great deal of attention to the subject, as is seen by the many inventions that have been in operation in France and Germany. Yet it is of essential importance that those who have entrusted to them the winning of our minerals should be well acquainted with the best kinds of bore-rods and the most economical systems for using them. In boring from the surface to considerable depths, or proceeding from the known to the unknown, we obtain a practical knowledge of the geological formation of the strata passed through, and are able to trace the physical and successive revolutions the earth has undergone before arriving at its present condition, and at the same time to obtain a knowledge of what minerals there are in certain localities and where they are not. There have been many instances where persons have come to the conclusion that coal and other minerals would be certainly found deposited in a given district, and have commenced sinking without being at the trouble of boring so as to prove what was below the surface, and have realised a costly disappointment in consequence. Of this we have had frequent illustrations. In the Forest of Dean the carboniferous limestone shale is about 1000 ft. below the lowest bed of coal. Yet not far from it a landowner erected an engine-house and extensive surface works in the expectation of finding coal where it was impossible it could be. Near to Tiverton, in Devonshire, a shaft was sunk through the same formation in the expectation of coal being met with. These instances show a thorough ignorance of elementary geology, but even then there would have not been so much disappointment had boring in the first instance been resorted to. The old system of boring with an iron rod and a steel chisel has been in pretty general operation until up to a recent period, although there are several objections of a weighty character against it. This has been found to be the case, more particularly in boring down to the coal measures. By it considerable difficulty has been experienced in ascertaining when the coal was reached, and there was equal difficulty in determining its quality. A great deal of dependence had to be placed on the sound, and it was not easy at times to tell the difference between the coal and a bed of highly bituminous shale even to a tolerably practical ear. In one instance we are told by an eminent mining engineer that whilst proving the minerals the borers reported finding a bed of canal 4 ft. thick. This was sunk to, when it turned out to be a bed of shale closely resembling canal coal. These disadvantages, however, have been overcome by two machines for boring that have been introduced by English inventors, and have met with the approval of mining engineers. The machines alluded to are those of MATHER and PLATT, of Salford, and Colonel BEAUMONT. The advantages of these machines are that, as compared with ordinary boring, the work is more accurately and rapidly executed, and besides causing a great saving of time they bring up a solid core of the strata passed through, so that the opportunity is afforded of judging in every way of the ground gone through, so that the thickness as well as the quality of any mineral seam is at once ascertained. These machines are free from the imperfections of the old ones, and consequently can be relied upon by those who desire to prove new ground where minerals are expected to be found.

In Germany several descriptions of borers have been in use for many years, improvements from time to time having been made in them, and we are told that wooden rods are now generally used with a free-falling apparatus. The shaft rods, it appears, in most instances are attached to the lever by a lengthening screw, which was introduced by Herr KIND, and which has entirely superseded the use of the chain for deep borings. The screw, we are told, by Mr. JEFFERSON consists of two long side-links, which are held together at the top by a short pin, two nuts screwing on the ends outside the links. The pin is large enough to have a hole through it, which is tapped, thus forming a nut through which a long screw passes, the upper end of which terminates in a large eye, to which a short chain is attached, supporting it from the lever. The lower ends of the long side-links are likewise connected by a short cross-piece which forms a swivel, the lower end of the rod passing through the cross-piece being enlarged and tapered, so that it can be screwed on to topmost shaft-rod. By twisting the nut, through which the long screw passes round, the whole of the rods suspended in the bore-hole

can be gradually lowered, an arrangement which is quite simple, and carries out the purpose intended perfectly. Herr KIND appears to have paid a good deal of attention to boring apparatus, having introduced what was known as his Free Falling Borer, which was improved upon by Von SECKENDORF. Herr FABIAN was another inventor of a free-falling apparatus for dry-boring, which was also improved upon by others, including WERNER. With respect to borers on the Continent, in a paper read by Mr. JEFFERSON before the Midland Institute of Mining Engineers, he gave it as his opinion that the best free-falling instrument yet invented for use with rigid rods was that of the boring inspector, ZOBEL, of Elmen, near Schönbeck, patented in 1859. In operation, the free-falling piece and lower rods fall freely to the bottom of the bore-hole, and the rest of the apparatus follows slowly and again catches hold of the free-falling piece, and on rising raise it and the lower rods and borer preparatory to a second blow. It will be evident from what we have stated that far more attention has been paid to boring appliances on the Continent than there has been with us, and experience evidently points to the fact that the free-falling rods have a considerable advantage over those having the chisel rigidly connected, especially in deep borings. It may, however, be said that rigid rods give the most accurate information as to the nature of the stratum gone through, and then an experienced borer can tell the thickness of it to a comparative trifle, but the best proof after all is the cores brought up by the borers constructed for the purpose. The above remarks apply to boring from the surface, but in a mine, say in going through coal, the rods used in boring are of a much lighter description, for usually a chisel about 1½ in. in width is sufficiently large, and the rods may be from 3 to 4 ft. in length of wrought-iron, and about 1½ in. in circumference, excepting near to the ends of each, where a little more strength is requisite for the box and threads. But for extensive borings in mines, machines worked by compressed air or other power will be found the most economical; and here again our French mining engineers will be found to advantage, for they have paid a great deal more attention to it than our own have done. But the great feature in boring certainly appears to us to be the substitution of that system for sinking shafts, as illustrated by the Kind-Chaudron system. By that process a small boring is made from the surface by means of one or more boring tools having a number of teeth or chisels, which act upon the Chinese system. The tools, after being lifted up by suitable apparatus for a height of about 1 or 2 ft. fall down and crush the rock. The tools are of a width corresponding with the diameter of the boring to be made. The boring can then be enlarged by means of one or more larger tools used in succession. Seeing that so many mineral properties are now being developed, boring appliances become a necessity, and as the study of mechanical science has of late been more fully followed up by our mining engineers than it has ever been before, we may now look forward to seeing in operation the best boring appliances that can be obtained, so that economy, which is so necessary at the present time in all mining undertakings, shall be carried out in the most thorough manner, and that can be best accomplished by the rapidity with which the preliminary work in opening out a mineral field is effected.

## OUR RAILS IN THE UNITED STATES.

Perhaps the most remarkable and at the same time the most hopeful feature in the current history of our railway iron exports is the activity observable in the shipments of our railway material to the United States. In spite of the tremendous duties imposed by Congress on foreign rails entering American ports, in spite also of the immense efforts made by American iron companies to increase their production, our rails were still exported to the United States in March to the very solid and satisfactory extent of 25,828 tons, as compared with 15,198 tons in March, 1880, and 372 tons in March, 1879. Our railway iron shipments to the United States in the first three months of this year also compare well with the corresponding exports in the corresponding period of 1880, having amounted to 48,686 tons, against 43,367 tons; in the corresponding quarter of 1879 they did not exceed 1184 tons. The question, of course, is whether the increased activity and animation indicated by the statistics available for the first quarter of this year is likely to be maintained. In connection with this enquiry the most encouraging circumstance appears to us to be the magnitude of the shipments in March. This is the latest month to which the data available extend, and it certainly is cheering to find that in that month the shipments exhibited no signs of weakness or exhaustion, but quite the reverse. We must not presume, however, too much upon this fact; everything appears rather to hinge upon the general course of American affairs during the remainder of this now tolerably well advanced year.

The happy freedom of the United States from internal strife and external war, their vast natural resources, and their great accumulation of population and wealth—to say nothing of the juster and sounder system of finance which now finds favour with American public men—are all powerful influences highly calculated to assist the material development and progress of the American Republic. The mind of man can scarcely conceive or appreciate the future which is in store for the United States. Great as their population has already become, it is but a mere handful when compared with that which will one day find a ready subsistence in the "infinite West." Probably even the Americans themselves have not an adequate idea or conception of the future grandeur of their country; and as Americans are not particularly modest, this is saying a great deal. It is not surprising that a country of such resources, such wealth, and such magnitude should require a materially extended railway system; and, therefore, we can but think that the present furor for more railways, which is such a remarkable feature in American life, is not without some solid justification. But then we cannot overlook the fact that the Americans have always an unfortunate tendency to overdo even legitimate business, while their own appliances for the production of railway material are being extended from day to day.

## OUR MINING POPULATION.

Seeing that the Census of the country has just been taken our attention has been directed as to what is the position of our mining population, and whether the number of our miners has increased or otherwise. So far as we can gather we believe it will be found that whilst there has been a marked increase in the production of our minerals, the reverse has been the case with respect to our miners. Indeed, we find that after the great flush of trade between 1871 and 1874, when so many persons took to mining, owing to the high rate of wages paid, the number of miners gradually dwindled down. This only proves the old rule of high wages being a great attraction during the time that such prevails, whilst, on the other hand, a reduction sends back great numbers to other and more congenial employments. High wages to miners cannot, therefore, be said to be an unmixed blessing, seeing that it causes so many persons to engage in a pursuit which does not require a long training to become tolerably efficient in, and the consequence is that when things fall into their normal state there are far more workmen than are required, and this, of course, brings down wages. It will be recollected that in 1872 and the following year miners in some districts got wages of a most exceptional character for working a few hours daily, and this caused labourers and even skilled workmen to go into our pits. The result was that the panic which took place, more especially as regards coal, having subsided matters settled down to something like their old state, and the wages of the miners fell to something like what they had previously been. So long as men could earn from 4l. to 5l. for working about 40 hours a week everything went along happily, and none were discontented. But when wages came down to only 4s. or 5s. a day a change took place with respect to the improvised brood of miners, and they gradually left in favour of pursuits which could be carried on by natural light instead of in darkness. Notwithstanding this deficit in the number of miners the output of minerals has increased, so that those who have kept to their work in our mines—and they have, of course, been the oldest and best hands—have raised a much larger quantity of mineral per individual than they had previously done. That this has been the case will be seen from

the following figures, showing the tonnage of minerals raised and the number of miners employed in the United Kingdom:—

	1871	1873	1876	1879
Minerals raised .....	117,439,251	143,041,246	148,989,385	145,368,369
Number of miners .....	370,861	514,149	514,532	476,810

Comparing 1873 in particular with 1879 there has been a most marked decrease in the number of persons working in our mines as compared with the quantity of minerals raised. In 1879 the wages of our miners were fully as low as they were in 1870, and this led to the decided decrease which took place in the persons employed in our mines. But it may be said we are anticipating the returns that will be made known by the Registrar General, but as it will be a long time till those are made known we thought that our own views would be of some interest to our mining readers, based as they are upon the most reliable data obtained by the Government Inspectors. We would, however, even go a step further, and say that the number of persons returned as engaged in mining pursuits at the census recently taken will be even less than given by the Inspectors for 1879. From reports we have received from several districts we are told that there has been a considerable decrease in the mining population. This has been the case more especially in the great Midland coal field, the largest in England, and no stronger proof can be given than the larger number of cottages that are now empty in some of the most important mining centres. In one town, the centre of a large mining district, no less than 600 houses, most of which were formerly inhabited by miners, are now empty, and a similar state of things exists in many other places. Mr. MACDONALD and others have long talked of emigration as the only benefit for the surplus mining population, but it appears that many miners, finding wages lower than they expected they would ever fall voluntarily migrate from mining districts to others when they can fall into the ranks of the ordinary labourers, only to emerge from them when mining wages again go up to an abnormally high point, and thus help by numbers to bring them down again. This is a state of things that all trades must expect under such circumstances; so, as we stated at the beginning, exceptionally high wages are not such a boon in the long run to the working men as many of them think, and the fighting for which in the past has led to so much misery.

## ELECTRIC ILLUMINATION FOR MINES.

Some further steps of progress towards obtaining the electric light in such a form as to make it available for the illumination of mines appear to have been made by inventors whose systems have been exhibited during the past week. The method of sub-division devised by Mr. J. Banting Rogers, of St. Clement's House, Lombard-street, is at once simple and ingenious, and should the results obtained on a large scale correspond with those in the experimental trial the introduction of the system as a substitute for other means of lighting collieries would present no difficulty whatever. At present, however, nothing can be said as to the commercial value of the invention as the construction of the distributor is kept secret, and the specification of the patent which protects it is not yet published. But there is one fact beyond question; Mr. Rogers produced a visible current in between 30 and 40 Geissler tubes from one bichromate battery—a bastard Bunsen—connected to a small Ruhmkorff induction coil; these tubes, moreover, were on five or six circuits all supplied from the one current, yet so completely independent of each other that the breaking of one or more of the circuits did not produce any sensible effect upon the others. The distributor probably consists of a series of subsidiary reduction coils, since both the hand and a very rough galvanometer (the only one provided) indicated rather an increase than otherwise of current after subdivision. The conductors, positive and negative, are led from the battery and coil to a small box not larger, 4 in. by 3 in., and from this four distinct currents are led. As each of these can be again subdivided and so on, it will readily be understood that there is a wide scope for extension. The inventor claims that he can divide and subdivide the electric current, so that for lighting purposes it can be made available for the smallest room, and thoroughly controllable. No part can get out of order, and when used it becomes certainly the best governor yet introduced for controlling the subtle power of electricity. Each apparatus is in itself an accumulator, governor, and a sub-divider. He can utilise the current to any extent, and as easily give forth a number of lights as he can one. It is only a question of the electric force or fluid that any magneto machine will produce, being passed through his apparatus to be divided and subdivided to any extent required.

Another invention, which appears to be a modification of the Regnier or the André light, has also been exhibited this week at the offices of the Electric Light Agency in Queen Victoria-street. The light is produced by the heating to incandescence of the end of a thin carbon rod which forms one electrode, and which is continuously fed through special and simple contact jaws against a fixed cylinder of copper forming the other electrode. The light emanates from the short length of carbon between the clamping jaws and the copper cylinder, but chiefly at that part near the metal where the rod becomes pointed by the action of the current, and where it is, therefore, more intensely heated. In addition to the light produced by the incandescence of the carbon there is also the glow or flame which proceeds from the surface of the carbon to the copper electrode, similar to an arc light. The Joel light thus takes an intermediate position between the purely incandescent system of Edison and the arc lamp of Serrin and others. The lamp in which the electrodes and the mechanism are enclosed is externally precisely similar to some gas lamps, being fitted with gaselier suspensions and terminating in a ground or opalescent glass globe. A switch or tap is placed in each room, and the light is turned on and off at will. There are automatic safety arrangements, so that before the lamp can be opened when burning the electric current is shut off, and this also occurs when the carbon has been consumed, all liability of accident being thus avoided. The whole system, in fact, as far as the arrangement of the lamp and its accessories are concerned, has been approximated as much as possible to that of gas lighting. The light is very steady, of a pure white colour, and of good power.

## SPENCE'S METAL MANUFACTURING COMPANY.

For some time past Spence's Metal has been a prominent feature at the various industrial exhibitions, and from the circumstances of its having been shown as imitation bronze statuary, as beautifully finished medallions, and as vessels for containing, indeed actually containing, powerful acids, a very fair opinion could be formed of the great utility of the alloy and its wide application. The commercial value of the discovery having now been ascertained an influential company has been formed—Spence's Metal Manufacturing Company—with a capital of 200,000l., in shares of 1l. each, for the purpose of developing the invention. The new metal has only been introduced a little over twelve months, and its rapid development in the industries and arts has so much exceeded the most sanguine expectations that more extended manufacturing facilities have become necessary, and the result of this extension need not be doubted, for, as will be seen in the prospectus in another column, its economy and efficacy are attested by the highest authorities, speaking not from experimental data but from actual working. The profits from the manufacture of the metal are large, the process is simple, and the materials are cheap, and not exposed to fluctuations in price. The metal seems to have given equal satisfaction as a substitute for bronze, lead, type metal, zinc, carved marbles, &c.; the economy varying from 50 to 80 per cent., according to the material replaced. The many advantages possessed by the metal results from its low melting point, its resistance to atmospheric or aqueous influences, its insensibility to the action of acids, its close resemblance to the antique bronze, its producing an exact impression of the mould, thus saving the labour of chasing, its extreme lightness (being half the weight of most of the metals in use), and its cheapness. It appears that last year, on the recommendation of Mr. George Livesey, their engineer, the South Metropolitan Gas Company adopted the metal in the place of lead, with results which doubtless will be improved this year, 35,840 lbs. of Spence's metal have done the work of 112,000 lbs. of lead. The company have saved 500l. in cost of materials, independent of a saving of labour which is estimated at 30 per cent. Amongst



Although the explosion, which may occur through the agency even of a non-combustible powder in the manner described, may be of a very mild or feeble character in the first instance, it may be almost at once increased in magnitude and violence by coal dust, which at the first ignition will raise and bring into action. Further, the promotion of fire-damp required to bring dust in a mine into operation as a rapidly burning or an exploding agent, even upon a small scale, and with the application of a small source of heat or flame, is below the smallest amount which can be detected in the air of a mine even by the most experienced observer. In the complete absence of fire-damp coal dust exhibits some tendency to become inflamed when passing a very large lamp flame at a high velocity. If exposed to the action of a large volume of flame, such as produced by the explosion of freely exposed gunpowder or gun-cotton, it exhibits in addition a decided tendency to carry or propagate flame. Conclusive-



it may be admitted as possible that with the large volume of flame, and the great disturbing effect of a blown-out shot as the initiatory cause of the ignition of dust, and its suspension in surrounding air, such inflammation may, in the complete absence of fire-damp, be propagated to a greater distance than the results of small experiments would warrant one in assuming. But it can scarcely be maintained that the air of a mine in which the coal gives off gas at all can be at any time free from fire-damp; and as the existence of very small and unsuspected quantities of that gas in the air of a mine may suffice to bring about the ready propagation of flame by coal dust, and thus to develop violent explosive effects, it would appear needless to assume that coal dust may in the entire absence of fire-damp give rise to explosions, even of only limited character, in coal mines, in order to account for casualties which cannot be ascribed to the existence of accumulations or sudden outbursts of fire-damp.

The opinion of Mr. William Armstrong, M.E., as to the explosion and its probable source was also given. Amongst the other witnesses examined were Mr. Atkinson, Assistant Government Inspector for Durham, who opined that the explosion occurred at Brown's shot; and Mr. Thomas Bell, Government Inspector for Durham, who read a report which had been drawn up by Mr. Willis, Government Inspector of Mines for Northumberland. In this report the two gentlemen named believed the explosion to have originated at the curve or the staple, and of the two the curve was thought to offer the most acceptable solution. Taking this point it was held that all the phenomenon observed might be satisfactorily explained. With the polka way end as the seat of the explosion many of the indications presented could only be explained on the supposition that two or more explosions had followed in succession.

In the result the jury found:—"That an explosion took place at New Seaham Colliery on the morning of Sept. 8 last, killing the men whose bodies the enquiry had been held, but how or in what part of the pit the explosion had taken place they were unable to say. As to the system of firing shots in future, the jury were of opinion that this could be safely left in the hands of the managers."

#### PRACTICAL MINING—SYSTEMATIC MINERALOGY.

To the practical miner there is probably no branch of science of greater utility than mineralogy, for it is by a thorough knowledge of the minerals met with that he is enabled to judge of the commercial value of the ground he is working, or of the probability of discovering some other rock he may be seeking; and thus to pronounce an opinion upon the prospects of the enterprise with which he is dealing. Where a man has worked continuously in one mine or one district he becomes so well acquainted with the minerals of greater industrial importance therein that he is often inclined to ignore the necessity of studying mineralogy as a science, yet upon going into a new district it is the systematic mineralogist who has the advantage, so that systematic mineralogy is well worth the attention of both mineagents and miners; and to these Mr. Hilary Baerman's volume,\* just issued in Longmans' series of text-books of science, may be specially recommended. It will afford a sound general knowledge of the subject, and there will be nothing to unlearn should the student desire subsequently to continue his labours by reading the standard works of Dana and others. The attractive feature of the book is that Mr. Baerman has considered utility before theoretical precision of arrangement, if indeed the consideration of the geometrical properties of crystals before their physical structure can be so called. He states that "with the exception of water, mercury, and some hydro-carbons which are liquids at ordinary temperatures, minerals are solids, and occur in masses which in some cases are of irregular and in others of regular shape," and then goes on to explain the general principles of form and the various systems of notation used by different crystallographers. He explains that in the body of the work he has in the crystallographic part adopted upon similar utilitarian considerations to those which have guided him throughout—a mixed system of notation, the forms being designated in the text by their symbols according to Naumann, while the notation on faces is by indices on Miller's system. In the hexagonal system the Bravais-Miller notation by indices on four axes has been adopted as showing most clearly the relation between it and the tetragonal system.

The work is conveniently divided into 17 chapters, the preliminary and that on the general principles of form being followed by others on the cubic, hexagonal, tetragonal, rhombic, oblique, and triclinic systems respectively. There are then chapters on compound or multiple crystals, on the measurement and representation of crystals, on the physical properties of minerals—cleavage, hardness, and specific gravity, two chapters on the optical properties of minerals, the author remarking that this portion of the subject has been considered at somewhat greater length than is usual in rudimentary books, on account of the great and increasing use made of this branch of investigation. The consideration of the thermal and electrical properties of minerals occupies another chapter, and then the chemical properties of minerals are dealt with, the classification adopted being that of the second edition of Rammelsberg's Handbuch der Mineral-Chemie—the standard modern authority upon the chemistry of minerals. The relation of form to chemical composition, and the association and distribution of minerals are considered in the two last chapters, and there is an excellent index. General descriptive mineralogy or physiography is to form a companion volume. With regard to the accuracy and reliability of the book, Mr. Baerman's name is a sufficient guarantee as to its arrangement and readable character it is all that need be desired: it is well worthy of a place in the science series of which it forms one, and should find a large number of readers amongst those connected with mines.

**SCIENTIFIC BOOKS.**—Few would have supposed it possible with so dry and unpromising a subject as "Scientific Books" for the theme to write so readable, instructive, and interesting a lecture as that recently delivered before the Polytechnic Club of the American Institute by Mr. Wm. H. Farrington, of New York. Placing the chief scientific works in separate branches—chemical and physical; medical; geological, including mineralogy and mining; astronomy and meteorology, including navigation and seamanship; the so-called natural sciences, biology, zoology, botany, &c.; mathematical, which to a certain extent is combined with the other branches; and civil and mechanical, which may embrace also electric, sanitary, and hydraulic engineering and architecture—and prefacing his remarks with the observation that the several classes so impinge upon each other that it is sometimes difficult to draw lines of demarcation—Mr. Farrington referred to so many works of each class, and gave so excellent an idea of their character and scope that he has largely increased the student's facilities for ascertaining what books are within his reach, and what will best suit his purpose. Mr. Farrington displayed a wide knowledge of what has been done in scientific literature both in America and in Europe, and may fairly be congratulated upon having rendered an important service to the American Institute and to scientific readers generally.

**ERICSSON'S CALORIC PUMPING ENGINE.**—An ingenious form of hot-air engine, specially designed for raising water for domestic use, is now being introduced into this country. Its invention is due to Captain John Ericsson, the inventor of calorific engines and of the original Monitor system of ironclads. It is mainly intended for use in private dwellings for lifting water from wells, brooks, or cisterns to water-tanks on the upper floors. The engine has but one cylinder—which contains two pistons, the lower one fitting loosely so that air can pass through the annular space between it and the cylinder. The furnace—which is simply a set of Bunsen gas-burners—is placed under the bottom of the cylinder. The air within the cylinder is alternately heated and cooled, the same air being used over and over again. The heating is effected at the bottom of the cylinder by the gas, the piston being raised by the expansion of the hot air. On the descent of the piston the air finds its way to the top of the cylinder, which is water-jacketed, and the air cooled and condensed. The pump is at the side of the engine, and the cold water has pumped up by it passes through the water jacket which surrounds

the upper part of the cylinder, and thence through pipes to the store tank. This apparatus is very simple in construction, and safe and economical in use, steam not being employed, and the consumption of gas being put at only 15 cubic feet per hour. The engine works very quietly, and in view of the destructive fires which have recently occurred in country mansions it commends itself as a desirable adjunct to fire-preventing arrangements, which are often so strangely neglected. It is being introduced into this country by Messrs. Thomson, Sterne, and Co., of London and Glasgow.

#### THE ALMADA AND TIRITO CONSOLIDATED SILVER MINING COMPANY (LIMITED).

**MINA GRANDE.**—Capt. N. C. Morcom, Feb. 16: The ground in the winze, sinking below the 12, is composed chiefly of felspar, there being less quartz than for some time past; the ore is also less, perhaps in consequence of the hardness of the rocks. There is no change to speak of in the stope above the 12, nor is there likely to be until we reach the tunnel level. This stope is our chief source of supply, and will be until a new course of ore be met with. The end driving north of the new west cross-cut has undergone no change worthy of notice since last reported. This will also apply to the rise in the back of the same level.—March 2: The winze sinking below the 12 has reached the depth of 60 ft., the lode having continued unproductive to this point from 20 ft. above, and the ground being of more than usual hardness, and of an unkindly nature, with an increased amount of felspar. We thought it best to suspend the sinking for the present, and to cross-cut west in search of more lode matter and metal, in case they exist in that direction. The cross-cut is now in 6 ft. 6 in., giving a total width thus far of 25 ft. on lode. We are expecting every day to strike country rock. The nature of the lode in the cross-cut is the same as the winze. There are occasional spots of ore met with, but metal it appears cannot live in such a hard and barren felspar. This we invariably find to be the case. It looks as if the same thing has happened in the Mina Grande bottom as in the Tirito; still, we trust not, and in order to be certain whether the ore has entirely given out or otherwise we shall start some exploratory works in the 15 as soon as the water is taken out, the result of which you and ourselves will watch with great interest. At present, however, we cannot but confess the outlook is gloomy; and such a sudden change from prosperity to barrenness is hard to reconcile our to. The stope in the back of the 12 is about the same; still, it has not improved. The end driving north of the new west cross-cut is poor, and will be suspended unless it soon improves. The rise in the back of the level has a good appearance.

March 9.—There has been no change taken place for the better in the cross-cut west of the 12 m. level winze. We have, therefore, suspended the driving for the time being until we make some trials in the 15 m. level. There is still some lode matter standing in the east side of workings in the 15. We did not take it away because it contained but little ore, as the better part of the lode was on the west side. In a few days the water will be taken out, when we shall cross-cut through the lode, to prove beyond a doubt whether any more ore exists eastwards. We shall also sink a little deeper in order to ascertain whether the same channel of felspar goes back south of the 12 winze, where it is so abundant. We shall leave nothing undone that may lead us to a new discovery of ore. I will venture to say, should we find anything of great importance at the 15, it will be contrary to my expectations; still we may find a little ore, but doubtless if the big bunch exists it is far below the present bottom, and will require a large sum of money to prove. The stope in the back of the 12 is much as usual. The end driving north of the new west cross-cut having become unproductive is suspended.

March 2.—The ore being of too low a ley all operations are suspended. Just a little to the north of San Juan is the west cross-cut, where we have on different occasions sunk, risen, and driven on the lode in search of ore, but the ground being very expensive to get through and the lode poor, a good deal has not been done. The lack of means has kept us from pushing this point, which we shall at once do when we can get the prospecting work of the 12 m. level winze. I find the drainage north will not be attended with success. It appears we are beyond the ore course or shoot. Notwithstanding, it will be only just to make the trial for a short distance.

LA VIRGEN.—Feb. 16: The stope in back of the 10 is productive of good black ore. This will be of short duration, as it has nearly reached the tunnel.

March 2.—The stope in back of the 10 has yielded a fair quantity of good black ore during the past week. This stope is nearly to the tunnel, and will soon be worked out.

First Lode.—Feb. 16: The end driving north is poor at present. The stope in the back of the level has been fairly productive of late.

March 2.—The stope has been productive of good green ore of late. When they reach the tunnel level we shall continue the end north-west, the course the lode runs, in case the ore holds out so long.

TRIBUTE DEPARTMENT.—March 2: The tribute department is falling off a little.

GENERAL REMARKS.—March 2: The reserves of ore ground throughout the mine do not at the present moment exceed 4000 tons. You may judge of our position in six months hence if no further ore body be soon met with. I am exceedingly sorry to say the prospecting work of the 12 m. level winze, I wish they were. Should there be any discovery of ore made in the present cross-cut west, or in the 15 Mina Grande, it would doubtless be wise to sink the Balcamera shaft to another level—(say) 36—or a 40 fathom level, and from thence drive north. This would save the expense of driving the 24, as there is no ore at that depth to take away. In a short time, however, we shall be in a better position what to advise on the subject. We can only hope a change for the better will soon take place.

MINA GRANDE.—J. H. Climes, February 21: The winze bottom shows now mostly felspar and very little lode matter. Capt. Morcom and myself examined it very carefully on Friday, and were very much discouraged; it is no longer a question of not finding a new ore chimney, but we have very grave fears as to the existence of the lode itself in such an unfavourable stratum. Sinking was stopped, and we are going to blast on the western side. The continued capriciousness and precariousness of the Mina Grande bunch does really incline one to the theory that it is a huge pipe vein—i.e., the ore-bearing part, which showed itself at its best at or near tunnel level. The great shortness and huge width of the chute would seem to corroborate this theory.

Feb. 25.—Capt. Morcom is just out from underground, having measured the western branch. Contrary to our anticipations the indications in the present rise from recent cross-cut are that the western branch does not live high above the tunnel; this statement, will, of course, be further proved. The new rise, as you will see by Capt. Morcom's report, is looking better.

March 5.—Not knowing what to make of the western vein below the 12, we to-day put some men to drive from the 15 chamber north-easterly to examine the main lode. This latter at the 12 was very poor, making on a floor of sterile quartz. We now wish to see if it contains ore lower down.

The directors have received the following telegrams from Mr. Climes:—March 2: Driving the north Tirito 54.—March 25: Exploring eastern lode from tunnel. The Quintera struck ore in their corresponding lode.—March 31: Are forcing cross-cut.

#### THE INDIAN TREVELYAN GOLD MINING COMPANY.

The directors consider that pending the commencement of operations by the special staff of this company the shareholders will be pleased to peruse the latest reports received from the officials of the South Indian Gold Mining Company as to the reports on the properties acquired from that company. The following extracts just received from India are, therefore, subjoined:—

From the secretary on special duty in India to the South Indian Gold Mining Company, dated March 18: At Attikunnoo what appears to be the course of an ancient stream has been discovered; the gravel or cement is very auriferous. I enclose the result of the washing by Capt. Gifford of four handfuls of this cement, in which at the time I counted over 30 specks. I have, subsequently, myself washed some, and got a good show. This ought to be good news to the board of the new company. There is plenty of work at Attikunnoo for a battery of elephant stamps, for the material lying about is light and friable comparatively. Yesterday Mr. Ryan took us to look at the course of the streams that flow from Hadia better below the pulp-house. There are the remains of mineral workings in all directions, evidently from alluvial, and in one place which we examined Mr. Ryan states he obtained as much as 3 ozs. in a short time. Mr. Pinching is considering how best to prove this part of the property.

From the mining superintendent of the company, dated March 19: Attikunnoo: This property I have visited twice and carefully inspected, and am pleased with it each time I see it. There is a very large reef traversing the estate, running nearly north and south, and on each side of the reef there are extensive old workings. The outcrops are very bold, and there are thousands of tons lying ready broken on the surface, which I have not the slightest doubt would pay to put through the stamp. Besides the reef, which by the enclosed report of the mining captain you will perceive is not yet cut through, although they have been coming across it for the last 25 ft. On the south-east there is a bed of water-worn gravel, which appears to be an ancient river bed, or else the former bed of the present river, and on which the old miners have worked for a considerable distance from the reef. This gravel we have tried by washing in Cornishish, and have obtained most excellent results, quite a large amount of free gold being plainly discernible. This estate amongst other advantages has a good stream of water running through it, though with barely sufficient fall to be used as motive-power, and have good supply of sound timber sufficient for fuel for a considerable time.

From the mining captain in charge of the Attikunnoo estate, dated March 19: I would submit the following report of progress on the Attikunnoo Mine for the week ending March 19:—I have continued the driving of Nos. 1 and 2 tunnels as before. In No. 1 I have not cut through the reef as yet. I have driven into the reef about 35 ft.; at the present point the reef is laying more flat than formerly, but it looks about the same. The whole length of No. 1 is now 45 ft. No. 2 tunnel I have not yet intersected the reef, but a good change has come in the ground. It is now hard picking ground, which I consider a good sign that we are nearing the reef. The present length of No. 2 is 80 ft. I have continued operations on the open cross-cuttings with as much force as I could

command during the week, the coolies being very irregular in following their daily labour, so I find it very difficult to carry on operations as I could wish.

**PIONEER COPPER (Harlech).**—The following is the report of Mr. H. B. Vercoe for March, to Mr. C. C. Adley, the managing director:—Since my previous report nothing has been done on the copper lode, operations at present being confined to the driving of the deep adit level south on the lead vein. During the month very good progress has been made, the level having been extended more than 21 yards. The lode has been of a uniform width of about 3 ft., with two beautiful well defined walls, containing every ingredient one could wish to find as indicating a strong, rich, and productive lead lode at a fair depth. I would again impress upon you the desirability of making arrangements to sink a shaft with as little delay as possible, as I more than ever strengthened in the opinion that a little depth only is what is required on both lodes to find them highly productive. In the present forecast of the level a small cross branch has been intersected which has temporarily contracted the lode, and made the ground somewhat harder. This will, I believe, be found to be of short duration, and I expect in a day or two to hear the lode has regained its size and character.

**SILVER-LEAD MIXE (Holywell).**—We have driven a short distance north on the 60 yard level on the north and south vein, and have intersected the hanging wall portion of Pant-y-Pydw vein, and got some good lumps of ore from it. We shall now be able to urge on this point with good speed, and I expect to have the satisfaction of announcing a discovery of ore before long; this is a most interesting and important point. We have not only the Pant-y-Pydw vein to drive on and to yield ore but also the intersection of the Petticoat vein, which has been very rich in adjoining mines, and which I doubt not will be equally so in your property. I purpose commencing to sink a sump on the sole of the 60 north on the north and south vein, where the lode is about 1½ ft. wide, producing saving work for washing, and occasional large lumps of solid ore. This point will in my opinion open out a valuable piece of lead ground, and will also serve to ventilate the deeper levels when we get them drained and placed in working order.

Blackwell shaft has been sunk during the last month about 5½ yards, making a total depth below the 74 yard level of 63½ ft. The men have still 4½ yards to sink to complete their 10 yards' contract; this should be finished in another fortnight. By then I do not think we shall have far to drive to meet the Pant-y-Pydw vein; and, taking into consideration that the lode has been immensely rich both east and west of this place, I do not see how it can fail to be productive at or near the point where we shall intersect it.

Eastern Shaft: This has been repaired, and ladders fixed in it to the bottom, and the 30 yard level has also been thoroughly repaired. I was much struck on my first inspection of this part of the mine to see such a strong flat of lead in it in sight to commence on. We have driven a cross-cut north from the old level about 3 yards in the flat, and have commenced sinking a sump on the sole of the cross-cut to prove the deeper measures. I am very pleased to say that the whole of the ground opened has produced ore more or less, with occasional lumps of pure galena and carbonate, varying from 7 lbs. each up to ½ cwt. The character of this flat is precisely similar to those of the richest mines in this district, and I feel quite confident of striking a body of ore at no distant date; in fact any stroke of the pick might do it, the ground is so unusually promising. The engine has been repaired, and is now in first-class condition, having new pistons, new feed pump, and a lot of other necessities. We are now winding with it daily and it does its work well on a small consumption of fuel.

The carpenter has made and erected new pit head-gear, new frame for crab winch, &c., and is now engaged making new main rods, &c. We shall lose no time in getting these fixed and connected to engines as to be ready to pump from the 60 should an influx of water occur, and also to pump from below the 60 to drain the 90 yds. level, so as to get at work on the rich courses of ore known to exist there on the Pant-y-Pydw lode. The new engine and boiler are to be delivered on the mine by the middle of the next week, and we shall commence preparing the loadings for them immediately, and shall also fix the spare boiler into position so as to be able to combine the whole of the engine and boiler power for pumping if it should be required. The expense in repairing the shafts and levels that is in timber and labour has necessarily been heavy; this has now been pretty well finished (so deep as the 60 at engine-shaft). The present month will be the first of our developing the mine, and I am certain our explorations will soon reveal something tangible in the shape of returns of ore and ultimately large and continuous profits.

**JAVALL.**—The report of the directors prepared for presentation at the meeting on Wednesday next states that the accounts show a profit on the year's working of 12197. 2s. 1d. towards paying the 18577. 6s. 11d. due for the year's interest on loans and debentures. Although this result is by no means satisfactory, it is nevertheless an improvement over that of 1879, when there was a loss of 4307. The death of Mr. H. Hennecke, the late manager, in the month of May last, was a source of regret to the directors. Mr. Chambers, who had been the manager, was most faithfully for upwards of ten years, and who is thoroughly acquainted with the working of the mine, has been appointed manager in his place. The usual tables are annexed to the report, and, although the dry season has set in earlier than usual, the manager anticipates considerable improvement for the year 1881. It appears that in 1879, the quantity of ore crushed was 20,909 tons, which yielded 11s. 11d. per ton, and cost the company 21s. 2d., being a loss of 3d. per ton. In 1880, the quantity of ore crushed was 20,636 tons, which yielded 12s. 4d., and cost 11s. per ton, being a profit of 1s. 4d.

**YORKE PENINSULA.**—The directors have received advices from the Committee of Inspection at Adelaide, with reports from the Kurilla Mine to March 1. The following are extracts from Thomas and John Anthony's report:—Kurilla Lode: At the 67, east of Hall's, the lode is now worth 2½ tons of 16 per cent. ore per fathom. We anticipate an improvement as we get away from the cross-course, which evidently led to the disorder recently met with in the lode. At 55 east a payable lode, say 3 tons of 16 per cent. ore per fathom, has been followed during the past month and continues. No. 2 winze is being put down below the 55 to further ventilate and render workable the 67, and a good lode is being followed. . . . At the 15 east, in the new section 398, great improvement has taken place. The lode is 3 ft. wide, and is mixed with ore throughout, and is withal, for the depth, as promising a lode as we have seen in this mine. . . . We have now disclosed paying ground 10 fms. long in this section 398, and it still holds good. . . . Six men continue to stope the 55 at 32 per fathom and 2s. 6d. in 17. tribute.—Morphett's Lode: Having at the 55 driven through the best part of the lode, we have set a new stope west to the 60 at 32 per fathom and 2s. 6d. in 17. tribute. The stope in the roof of this drive, both east and west, are looking well. At the 43 east we appear to have gone through the hard uncongenial rock, and have come upon good mica schist, and the south wall of the lode is better defined, but ore in paying quantity is not yet met with, although there is great promise of it in the early future. We made an attempt to sink a winze below the 30 to further test the lode over the 43, but after sinking short of 4 fms. was obliged to discontinue on account of excess of water. There is some good ore about this winze, but it will not be available until the water is drained. . . . Referring to the proposed tunnel from Hall's shaft to Morphett's lode, the committee, by the committee, regard the tapping of Morphett's lode at this place as highly important to our future operations, the chief object being to deepen the workings on both lodes by the use of one pumping-engine and discharge the stuff with one winding-engine, fixed between the two engine-shafts.—Ore Returns: 87 tons have been sold in the colony, and there remained on hand at the mine 1319 tons of over 15 per cent., with about 4450 tons of low-class ore of about 5 per cent.

**SORTBRIDGE COPPER MINE.**—No operations have been going on at this mine for some weeks, but they are now resumed, and the copper lode has been cut in another pit, east of the cross-course, where it is described as composed of splendid gossan and copper. We believe, however, that sinking will be at once commenced by a full force of men, so as to see the lode under this fine gossan as soon as possible. In the meantime, shares will no doubt be quickly subscribed for. They are already quoted ½ to ½ prem.

**TREWITTEN (Liskeard).**—We are informed that a specimen of the lode stuff from this mine, which we announced last week, has been assayed, and found to contain 125 lbs. pure tin to the ton; another distinct sample produces 84 lbs. to the ton. These results from the lode at 18 ft. from the surface tend to prove that very rich mineral deposits will be found as the shaft is proceeded with. The share list is not closed.

Attention is again being directed to Suto Tunnel shares, the tunnel being, as will be remembered, the great adit for draining and exploring the deeper portions of the celebrated Comstock lode in Nevada. The amount outstanding is \$18,920,000, and the par value of the shares is \$10. A year ago new management was elected, and Mr. Suto is understood to have sold his interest in the concern. Under a load for some time, the shares were yesterday \$1½, but today on the report that well known millionaire had interested himself in the concern, representing an advance of 350,000 in the total market value of the stock, has suddenly taken place. This is another resuscitation among the many which low-priced stocks, American especially, have undergone.

Advices from India state that the Alpha Gold Mine, which is being worked by the Glasgow South Indian Gold Mines Company, has begun crushing, and that the yield of gold has been far beyond the expectations formed. The actual result will be obtained after the clean up, which will be in about three weeks' time.

Messrs. PINLEY and ABELL.—Gold.—Withdrawals from the Bank of bars and sovereigns, to the value of £50,000, have taken place since our last report for America and the latter for the Brazil. The demand for the United States continues, and all amounts coming on the open market are purchased for transmission thither. \$0,000, in sovereigns, have been sent into the Bank from Egypt. The Northumberland has brought 40,000, from New Zealand, the Nile 76,300, from the West Indies, and the Maskelyne 3900, from the Brazils. The Elbe and the Tagus have taken 81,000, to the Brazils, and the Pekin 20,000, to Bombay. The French steamers which left Havre on April 2 and 9 took 349,000, to New York.—SILVER.—The price has remained steady at 52d. per oz. during the week, and yesterday further improved to 52½d. owing to heavy orders from India. The demand has been chiefly for the East, the continental orders having for the present ceased. The Nile has brought 14,000, from the West Indies, and The Neckar 27,000, from New York. The former amount has been sold at 52½d. the P. and O. steamer has taken 75,100, to Bombay.

\* "Text-book of Systematic Mineralogy." By HILARY BAERMAN, F.G.S., A.R.S.M. London: Longmans, Green, and Co.



## NORTH LONDON RAILWAY COMPANY.

THE DIRECTORS of this COMPANY are PREPARED TO RECEIVE TENDERS for the SUPPLY of ONE THOUSAND THREE HUNDRED TONS of HOUSE COAL, the deliveries to be extended over a period of twelve months, commencing in June next.

Particulars of the terms and conditions of tender can be obtained upon application to the Locomotive Superintendent, at the Company's Works, Bow-road, London, E.

Tenders, addressed to the undersigned, to be sent in before Ten o'clock on Tuesday, the 3rd May, marked outside "Tender for House Coal."

The Directors do not bind themselves to accept the lowest or any tender.

G. BOLLAND NEWTON, Secretary.

Euston Station, London, N.W., 13th April, 1881.

**MACHINERY REQUIRED.**—The DIRECTORS of the DEVON FRIENDSHIP MINING COMPANY (LIMITED) invite TENDERS for the SUPPLY and ERECTION on their MINES, near MARY TAVY, DEVON, of a WATER-WHEEL, 40 ft. diameter, 10 ft. breast, with wrought-iron axle about 20 in. long, 14 in. diameter in bearings, cast-iron ring placed at the joints, two strong centrepieces, each for 16 arms. Also for a DOUBLE-ACTING WINDING MACHINE.

Specifications and plans may be seen, and further information obtained, at the offices of Messrs. LOAM and SON, Liskeard, Cornwall.

Tenders to be sent to the office of the company, 8, Austinfriars, London, on or before April 20 inst.

The directors do not bind themselves to accept the lowest or any tender.

By order, J. H. A. SMITH, Secretary.

**WANTED, a SET OF ROCK-BORING MACHINERY** to drive 20 fathoms per month, with all necessary gear. Portable engine of ample power. Air-compressor, Receiver, &c., complete.

If second-hand, state full particulars, where used, and how long in use, to Messrs. WM. BRAMHAM and CO., Bow, London, E.

**WANTED, a THOROUGHLY COMPETENT CLERK** for an old-established Companies' office to keep the Register of Transfers and Share Ledgers, &c.

Address, with copies of testimonials, "X. Y. Z.," MINING JOURNAL Office, 26, Fleet Street, E.C.

**WANTED, for an INDIAN GOLD MINE, a THOROUGHLY EFFICIENT REDUCTION OFFICER.** One who has had Californian experience preferred, and competent to take entire charge of Reduction Works.

Apply, by letter only, to "Secretary," Indian Trevelyan Gold Mining Company (Limited), 5, Austinfriars, London, E.C.

**WANTED TO HIRE, for three or six months, with option of PURCHASE, a STEAM LAUNCH for TOWAGE PURPOSES.** Length not to exceed 30 ft., and not over 3½ ft. draught aft.

Also, THREE or FOUR FLAT-BOTTOMED BARGES, with hatches, to carry from 15 to 20 tons of iron ore, pig iron, pig lead, tin plates, &c.; draught when loaded not to exceed 3 ft.

The above required for use in a tidal river in South Wales.

Apply by letter to "P. C.," care of Messrs. C. Barker and Sons, 8, Birchington, London, E.C.

**MINING CAPTAIN SEEKS EMPLOYMENT AT HOME OR ABROAD.** Is thoroughly practical from youth, now forty-two. Has been Miner, Agent, and Manager of Mines in Cornwall, Devon, Wales, and Ireland. References, testimonials, or interview.

Apply to "Engineer," 21, Hafod-terrace, Carnarvon, North Wales.

**GOLD MINING ENGINEER WANTED.**

**A GOLD MINING ENGINEER, of known repute, is REQUIRED TO GO ABROAD IMMEDIATELY, to EXAMINE and make an exhaustive REPORT upon some GOLD MINES now in operation.** Absolute practical experience in gold mines essential.

Apply, with references, to "M. S.," care of Messrs. Kensington and Co., 2, George-street, Mansion House, E.C.

**A PRACTICAL MINING AGENT, 36, holding good certificates for machinery, desires EMPLOYMENT** where he could make himself generally useful. Drawing, Dialing, Assaying, French, and German. Worked nine years underground.

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## TO MINING COMPANIES.

**A NORWEGIAN ENGINEER, who has studied at Munich and A. Freiberg, been engaged at the Kongsberg Silver Works, had the management of Sverdrup's Silver-lead Mines, and is now Manager of a Fluorapatite Mine in Norway, is DESIROUS OF BEING ENGAGED BY A BRITISH MINING COMPANY ABROAD.** Very good references. Salary moderate.

Please address "E. K. 5588," care of Mr. Emil Dybwad, Advertising Agent, Christiania, Norway (D. 5588).

**CAPITAL REQUIRED, for a short period, to FURTHER DEVELOPE a VALUABLE ENGINEERING PATENT, with a view to ITS SALE in a few months at a LARGE PROFIT.** From £3000 to £4000 required.

Address, "X. Y. Z.," Messrs. Tongue and Birkbeck, Patent Agents, 34, Southampton Buildings, London, W.C.

**FOR SALE:—**

110 SHARES INDIAN QUEEN CONSOLS.

50 SHARES PARKA MINE.

Apply, quoting best price, to "No. 100," MINING JOURNAL Office, 26, Fleet-street, E.C.

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**A MINING PROPRIETOR REQUIRES a GENTLEMAN, with the necessary capital, to ENTER into a PARTNERSHIP for WORKING FIVE COPPER ORE FIELDS, of great worth.**

Apply, by letter, to "Mining Proprietor in Sweden," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

## UNITED MEXICAN MINING COMPANY (LIMITED).

Notice is hereby given, that the ORDINARY HALF-YEARLY GENERAL MEETING of Proprietors will be HELD at the Office of the Company, on WEDNESDAY, the 4th day of May next, at One o'clock precisely.

At this Meeting Charles Morris and John Weston, Esquires, will retire from office as Directors, but being eligible, offer themselves for re-election.

The two auditors, William Turquand and George Allen, Esquires, also retire, but offer themselves for re-election.

The above Meeting will be converted into an EXTRAORDINARY MEETING, for the purpose of considering and passing the following resolution:—

That a call of 2s. 6d. per share be, and the same is hereby, made on all the shareholders in the company, the same to be payable on the 1st day of June next.

The Transfer-books will be closed on the afternoon of the 23rd instant, and reopened on the day succeeding the meeting.

By order of the Board,

W. M. BROWNE, Secretary.

Offices: No. 3, Great Winchester Street Buildings, E.C., London, 11th April, 1881.

## THE SCOTTISH AUSTRALIAN MINING COMPANY (LIMITED).

Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of the Shareholders of the Scottish Australian Mining Company (Limited) will be HELD at the City Terminus Hotel, Cannon-street, London, on FRIDAY, the 22nd of April instant, at Twelve o'clock at noon precisely, to receive the Directors' Report and Accounts, declare a Dividend, and transact the other usual business.

The Share Transfer-books will be closed from Thursday, the 14th instant, until Friday, the 22nd instant, both days inclusive.

By order of the Directors,

C. GRAINGER, Secretary.

No. 50, Old Broad-street, London, 11th April, 1881.

## LIVERPOOL COLLEGE OF CHEMISTRY, LIVERPOOL.

PRINCIPALS—GEO. TATE, Ph.D., and GRANVILLE H. SHARPE, MINING COMPANIES' ASSAYERS.

Superior Assay Laboratories set apart for Students.

For prospectus, apply to the Principals.

## VALUABLE MINES OF TIN AND SILVER-LEAD IN CORNWALL.

**THE ADVERTISER has POSSESSION of VERY VALUABLE TIN AND SILVER-LEAD MINES, that have never yet been offered to the public.** This is a good opportunity for capitalists who wish to secure a genuine, safe, and profitable investment. Correspondence is solicited.

Any letters addressed to "Engineer," MINING JOURNAL Office, 26, Fleet-street, London, E.C., will receive prompt and careful attention.

## EKINS AND CO., STOCK AND SHARE DEALERS

Special Recommendations:—

**WHEEL GEORGE SHARES, at 37s. 6d.**—A discovery that is estimated to return greater profits than the capital of the mine (£15,000) has been made here.

**SILVER HILL SHARES, at £1 par.**—This mine is the most important portion of the Callington district. To secure shares at par immediate application should be made.

## CAPTAIN ABSALOM FRANCIS, M.E. GOGINAN, ABERYSTWITH.

## In the High Court of Justice—Chancery Division.

**TO BE SOLD,** pursuant to a Judgment of the High Court of Justice, Chancery Division, made in an Action of *Re THOMAS WILLIAM RIVIS (deceased)—RIVIS v. PRESTON*, 1879, R. 65, with the approval of the Honorable Mr. Justice FRY, the Judge to whose Court the said Action is attached, in One Lot, at first, and if not so sold, in Two Lots, by Mr. JOHN ELSE, the person appointed by the said Judge, at the Queen's Head Hotel, Matlock Bridge in the county of Derby, on Friday, the 29th day of April, 1881, at Six o'clock in the afternoon precisely, ALL THOSE 21-24ths, 1-43th, and 1-132nd PARTS or SHARES (practically the whole) of and in all that MINE or MINERAL POSSESSION, called the

## "SEVEN RAKES,"

Including the MOOT HALL and DIMPLE TITLES consolidated therewith, and of and in all that other MINE or MINERAL POSSESSION, called "CAWDOR" and "OXCLOSE."

The Mines are situated within the King's Field, in the Soke and Wapentake of Worksworth, and within the King's Field, in the Hundred of High Peak, in the County of Derby, and were lately worked by the Messrs. Milnes, as Lessees of the late Thomas William Rivis, Esq.

At one period, from March, 1857, to December, 1858, ore money of the value of £4034 18s. was extracted from these Mines, and in another year £1624 14s. 6d. was received from ore, and with vigorous management they may again prove highly remunerative.

These Mines will first be offered in One Lot, and if not so sold, in Two Lots, as divided by the River Derwent.

Particulars whereof may be had gratis of Messrs. ELSE and SON, Auctioneers, Matlock; J. RAY EDDY, Esq., Mining Engineer, Carlton, Skipton; THOMAS PRESTON, Esq., Matlock; T. B. BURLAND, Esq., South Cave; Messrs. LAMBERT, PITCH, and SHARPEAR, Solicitors, 3, John-street, Bedford-row, London; or of G. G. MACPHER, Solicitor, South Cave, Yorkshire.

## CALSTOCK PARISH, CORNWALL.

**MESSRS. R. MCTEAR AND CO. WILL SELL, BY PUBLIC AUCTION, No. 73, Renfield-street, Glasgow, on Tuesday, the 19th day of April instant, at Two o'clock in the afternoon, the MACHINERY and MATERIALS belonging to the Drakevalls Tin and Copper Mining Company, with the legal or equitable interests of the company in the Leases or Setts on which the mine or mines belonging to the company known as Drakevalls Mine are worked as going concern.**

There will be included in the sale the Houses, Lands, and Two Cottages at the mine belonging to the company, partly freehold, and partly copyhold.

Particulars and conditions of sale may be had of Messrs. ANDERSON and PATTERSON, Solicitors, 137, St. Vincent-street, Glasgow; GEORGE H. BARNER, Esq., Solicitor, 34, Old Jewry, London, E.C.; and Messrs. BAWDEN, Esq., Church-lane, Tavistock.

R. MCTEAR AND COMPANY, AUCTIONEERS, NORTH EXCHANGE COURT, GLASGOW.

## MOLD, FLINTSHIRE.

**PRELIMINARY NOTICE OF SALE** of a very valuable and important FREEHOLD ESTATE, comprising the newly and substantially erected Residence, known as BRONCOED HOUSE, with commodious Farm Buildings, Foreman's House, 46 Cottages, and about 116 acres of Freehold Land, in a ring fence, together with the well-known

## OAK PITS COLLIERY,

Fully opened out, with all the very extensive erections, valuable PLANT and FIXED MACHINERY, Branch Railway, &c., belonging thereto, and including the Lessee's interest in the COALS and OTHER MINERALS under a large extent of land immediately adjoining.

**MESSRS. CHURTON, ELPHICK, AND CO.** have received instructions TO SELL, BY AUCTION, at the Black Lion Hotel, Mold, on Tuesday, the 17th day of May, 1881, at Two for Three o'clock P.M., punctually, the above-mentioned very valuable ESTATE and COLLIERY, in One Lot, and subject to conditions.

Full particulars will shortly be published. In the meantime any further information may be obtained from Messrs. KELLY and KEENE, Solicitors, Mold; GEORGE BELLIS, Esq., Surveyor, Mold; SIMON HUGHES, Esq., 93, Duke-street, Liverpool; Messrs. VERN and SON, 1, Serjeant's Inn, Chancery-lane, London; or from the Auctioneers, Chester.

## LEASING OF IRON MINES IN TUSCANY (ITALY).

Notice is hereby given, that the MINISTRY of FINANCE, in ROME, has provisionally GRANTED the THREE YEARS LEASE of the IRON MINES IN ELBA, at a royalty of lire 5 Italian for every ton of mineral, either exported or otherwise utilised from the islands of Elba and Giglio; and the public are informed that the Ministry is prepared to RECEIVE, up to Ten o'clock of the 16th inst., TENDERS OF NOT LESS THAN ONE-TWENTIETH IN EXCESS of that price.

Such tenders to be accompanied by the deposit at the Provincial Treasury in Rome of lire Italian 300,000.

ROBERT A. HEATH, Italian Consul General.

London, 4th April, 1881, Royal Italian Consulate, 31, Old Jewry, E.C.

## CROW'S HOUSE ESTATE,

In the township of THORNLEY, parish of KELLOE, in the county of DURHAM

**PRELIMINARY ANNOUNCEMENT.**

**THE ABOVE VALUABLE FREEHOLD ESTATE, comprising 355 acres or thereabouts, together with the COAL and other ROYALTIES, will be OFFERED, BY PUBLIC AUCTION, in the month of April next, by MR. THOMAS WETHERELL, at the Three Tuns Hotel, Durham, in Two Lots, viz.:—The FARMS, FARMHOUSES, and BUILDINGS the first lot; and the MINERALS the second lot.**

Further particulars will appear in future advertisements, and plans and conditions of sale will be ready for issue by the 20th of March, to be had on application to Messrs. MALLETT BROTHERS, Chartered Accountants, 21, Collingwood-street, Newcastle-on-Tyne; Mr. THOMAS WETHERELL, Auctioneer, Durham; and of D. E. STANFORD, Esq., Solicitor, 21, Collingwood-street, Newcastle-on-Tyne.

## MINE FOR SALE, BY PUBLIC AUCTION.

On Monday, the 16th May, 1881, at Nine A.M., WILL BE SOLD, BY PUBLIC AUCTION, at LUGANO, SWITZERLAND, at the Tribunal of that City, the VALUABLE SILVER and GOLD MINE, called

## "CAMERE,"

Situated in the Commune of MIGLIEGLIA, formerly owned by Signori BAGLIONI and FRANZI.

The property will be put up at 150,000 fr.; deposit, 10,000 fr.

Conditions of sale are to be obtained of the Advocates, CARLO BATTAGLINI, Leone de Stoppani; and GIOVANNI SOLDATI, Lugano.

## FOR SALE, the WHOLE or PART:—

200 SENTINELS: No reasonable offer will be refused. For sale under special clause, and perfectly safe to buy.

100 COATES UNITED: The cheapest Tin Mine Share in Cornwall.

50 SOUTH DEVON UNITED: A good speculation for advance in price.

100 WHEEL CREBOR: Strongly recommended for increased Dividends and price of at least 100 per cent., or double the present.

**WANTED TO PURCHASE.**—100 Hultafalls, at a low price.

Address, H. WILKINS, 1, Tamworth Villas, Tottenham.

## FOR SALE, an ANTHRACITE COLLIERY, now in FULL and

PROFITABLE WORK, distant from Llanelli about 12 miles, connected with the railway system and ports of the district.

Apply to WILLIAM ROSSER, C.E., Llanelli.

## FOR SALE, a SEMI-PORTABLE PIT SINKING, COAL

WINDING, and PUMPING ENGINE, double 9½ in. cylinder, fitted with link-motion reversing gear, mounted on a multitubular boiler, with Bowling iron fire-box.

Also WINDING GEAR, drum 5 ft. diameter, brake, and PUMPING GEAR complete, ready for immediate delivery.

To be seen at—

## BARROWS AND STEWART'S WORKS, BANBURY, OXON.

## STONE BREAKERS and CRUSHING MACHINERY

for REDUCING to any degree of fineness all kinds of ORES, QUARTZ, COAL, CEMENT, PAINT, &c.

Particulars and specifications on application to "Quartz," MINING JOURNAL Office, 26, Fleet-street, London.

## ANTIMONY MINING SETTS, NORTH CORNWALL.

**ONE OR TWO MOST VALUABLE SETTS FOR SALE.**

Samples of the ore can be seen. Most liberal dues.

To treat for same, apply to W. PAYNTER, Jun., Wadebridge.

## FOR SALE OR HIRE, ONE HUNDRED TO TWO HUNDRED

or MORE 3½ and 4-yard END TIP WAGONS; also several 8-in. cylinder TANK LOCOMOTIVES, and other Contractor's Plant, equal to new.

Apply, JOHN DICKSON, Jun., or A. C. BETTS, New North Works, Bootle, n.a. Liverpool.

## ALEXANDER SMITH, M.Inst.C.E., CONSULTING

ENGINEER and VALUER of IRONWORKS,

MINING, RAILWAY, ENGINEERING, and other PROPERTY,

PLANT, and MACHINERY,

1, PRIORY STREET, DUDLEY.

Mr. SMITH has been retained for nearly 20 years by some of the most prominent firms, and has conducted many of the largest

valuations that have taken place in the Kingdom.

Valuations for Stock Taking or any other purpose upon very reasonable terms.

## SELF-ACTING JIGGING MACHINE.

## THE HUNTINGTON COPPER AND SULPHUR COMPANY (LIMITED).

REQUEST TENDERS (with Specifications and Plans) for MACHINERY capable of DRESSING FIVE TONS PER HOUR of the COPPER ORE of their SUTTON MINE, CANADA.

The ore is of an argillaceous nature, containing about 4 per cent. copper, and 85 per cent. alumina and silicic acid, the grade to be raised to 20 per cent. water power, and crusher already provided.

The Directors do not bind themselves to accept the lowest or any Tender.

Further information to be obtained on application to—

THE SECRETARY, 149, Hope Street, Glasgow.

Tenders to be sent not later than 30th April current.

## THE "JAMIN" PATENT ELECTRIC LIGHT

COMPAGNIE GENERALE D'ECLAIRAGE ELECTRIQUE.

Capital, 8,000,000 Francs.

Proprietors of the Gramme Patent Machine for Alternate Current

J. A. BEZLY, C.E., A.S.T.E., &c.,

Engineer, and Sole Agent for Great Britain and the Colonies

16, NEW BRIDGE STREET, LONDON.

## EAST WHEAL ROSE DISTRICT.—

PARTIES WISHING TO OBTAIN INFORMATION or TO ACQUIRE MINING PROPERTIES in this district will do well to put themselves in communication with J. GROSE, Newlyn East, Grampound Road Cornwall.

## MINE "E L C A L L A O,"

GUAYANA, VENEZUELA.

COUPONS ON SHARES..... 322

Gold in bars produced in the month of February, 1881, and remitted to Messrs. Baring Brothers and Co., London, 573974 ozs.

DIVIDEND distributed for each coupon, \$100.

(Signed) A. LICIONI, President.

(Signed) VICTOR T. GRILLET, Treasurer.

## LAS CALDAS FREEHOLD MALACHITE COPPER MINING

COMPANY (LIMITED).

Business in these Shares at close Market Prices.

Messrs. WARD AND CO., 184, PALMERSTON BUILDINGS

OLD BROAD STREET, LONDON.

## FOR SALE, a FIRST-CLASS TIN and COPPER MINING

SETT in one of the best districts in CORNWALL, and which can be worked cheaply.

To treat, application should be made to JOHN NIXNESS, Esq., Chacewater, Cornwall.

## SENTIN SHARES.—WANTED, FIVE HUNDRED for CASH

at a little under par.

Address, "Investor," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

## NEW PENROSE TIN AND COPPER MINE

(LIMITED).

These shares are recommended for a GREAT PROFIT, and should be secured at once; as also those in OLD WHEAL ROSE MINE, a generous and honest mine.

Full particulars may be had from Messrs. THOMPSON and SON, Plymouth.

A few FORTESCUE SHARES may be obtained cheap.

## MESSRS. ENDEAN AND CO., STOCK AND SHARE

DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.

BANKERS: LONDON AND WESTMINSTER, Lothbury; and

BARCLAY, BEVAN, and CO., Lombard-street, E.C.

## MR W TREGELLAS, 40, BISHOPSGATE STREET

WITHIN, E.C.

Deals in all descriptions of STOCKS and SHARES at close market prices, and is always in a position to do business in SANTA BARBARA, PITANGUI, and BRAZILIAN GOLD MINES.

## PENNINGTON AND CO., SWORN BROKERS,

3, ROYAL EXCHANGE BUILDINGS, E.C.

Transact business in every description of Stocks and Shares.

ESTABLISHED 1869.—BANKERS: ALLIANCE.

## TREVINE CONSOLS.—This mine continues to improve, and will, in our

opinion, shortly occupy a prominent position. We most strongly advise immediate purchase of shares for a rapid rise. Price 25s.

**SPECIAL BUSINESS** in Devonport and Tiverton Grey's Breweries, New Gold Run, Gold Coast, and Chapel House shares.

## MR. P. S. HAMILTON (late Chief Commissioner of Mines for

the Province of Nova Scotia), PRACTICAL GEOLOGIST, MINING AGENT, and MINING ENGINEER, HALIFAX, NOVA SCOTIA.

PURCHASES and SALES of MINING PROPERTY effected, with careful regard to the interests of clients.

## MESSRS. J. TAYLOR AND CO.,

MINING ENGINEERS AND INSPECTORS,

86, LONDON WALL, LONDON, E.C.

Have Agents in the various Mining Districts of Great Britain, the Continent, Australia, and the United States of America.

Inspections undertaken, either personally or by our Agents, and Reports or Advice as to Working given.

## MR. WILLIAM BREDEMAYER, MINING, CONSULTING

and CIVIL ENGINEER, U.S. MINERAL SURVEYOR for UTAH and

DAHO. NOTARY PUBLIC.

Geological examinations, reports on mining properties; surveys mines, railroads, and canals, and superintends the workings of the same; prepares estimates and plans for opening and working mines. Expert on mining questions before the Courts. Address, P.O. Box 1157, Salt Lake City, Utah.

## MONEY LENT, at EIGHT, NINE, and TEN PER CENT., on

FIRST MORTGAGE of FREEHOLDS for IMPROVEMENTS and STOCKING, said freeholds in the Province of MANITOBA.

Address, HERBERT C. JONES, Solicitor, 20, Masonic Hall, Toronto.

## "SOW AND REAP" will be published on the 31st instant

containing reliable information on MINING, BRITISH AND FOREIGN STOCKS AND SHARES, and financial operations for the month, Gold Mining in India.

Forwarded Post Free for 1½ stamp by THOMPSON and SON, Plymouth

## MINING SHARES, AND HOW TO DEAL IN THEM,

Published for the Author at the MINING JOURNAL Office, 26, Fleet street, E.C.

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GRATIS, free by post on receipt of Two Stamps to pay Postage.

## THE BOOK OF POSITIVE REMEDIES.—

It is the Book of Positive Medicine for the Cure of certain forms of Debility and Nervousness, viz.—Mental and Physical Depression, Palpitation of the Heart, Noises in the Head and Ears, Impaired Sight and Memory, Indigestion, Pains in the Back, Headache, Piles, Constipation, Hysteria, Dizziness, Local Weakness, Muscular Relaxation, Nervous Irritability, Blushing, &c., resulting from Exhaustion of Nerve power,



# SPENCE'S METAL MANUFACTURING COMPANY

(LIMITED).

Registered under the Companies Acts, 1862 to 1880.

CAPITAL £200,000, IN 200,000 SHARES OF £1 EACH.

The liability of members is limited to the amount of their shares: 2s. 6d. per share to be paid on application, 2s. 6d. per share to be paid on allotment, 5s. per share to be paid on the 1st day of June, 1881.

Further calls at intervals of not less than three months.

In the event of no allotment being made the deposits will be returned in full. Application will be made for a quotation on the Stock Exchange.

## DIRECTORS.

ERNEST NOEL, Esq., M.P., 29, Grosvenor Square, London, and Lydhurst, Hayward's Heath, Sussex,—Chairman of the Standard Fire Insurance Company—CHAIRMAN.

FREDERICK WILLIAM BROWNE, Esq., of Messrs. Browne and Wingrove, Bullion Refiners, 30, Wood-street, London.

JAMES L. A. HOPE, Esq., Managing Director, North British Metal Company, 93, West Regent Street, Glasgow.

FRANCIS A. REY, Esq., Managing Director of the London Metal and Chemical Company, 26, Kensington Gate, London.

Baron A. ROGNIAT, Metal Manufacturer, Director of the Societe des Marbres d'Arni, Paris.

W. MOLESWORTH ST. AUBYN, Esq., M.P. for Helston, 1, Brick Court, Temple, London.

J. BERGER SPENCE, Esq., of Messrs. J. Berger Spence and Co., London and Manchester.

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BANKERS—IMPERIAL BANK (Limited), Lothbury, and Branches.

CONSULTING ENGINEER—A. L. SACRE, Esq., C.E., 60, Queen Victoria Street, E.C.

CONSULTING CHEMIST—Dr. GRANVILLE COLE.

AUDITORS—CHATTERIS, NICHOLS, AND CHATTERIS, 1, Queen Victoria-street, London, E.C.

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SECRETARY (pro tem.)—JOHN W. OAKLEY, Esq.

TEMPORARY OFFICES.

11, QUEEN VICTORIA STREET, LONDON, E.C.

## PROSPECTUS.

This company has been formed for the manufacture and sale in the United Kingdom and Europe of a metal patented by Mr. J. Berger Spence, and called "Spence's Metal," which is now being used for an infinite variety of purposes, both industrial and artistic.

Its economy and efficacy are attested by the highest authorities, speaking not from experimental data, but actual working.

The new metal has only been introduced a little over twelve months, and its rapid development in the industries and arts has so much exceeded the most sanguine expectations that more extended manufacturing facilities have become necessary.

The profits from the manufacture of the metal are large, the process is simple, and the materials are cheap, and not exposed to fluctuation in price.

Among some of the uses to which the metal can be applied may be mentioned the following:—

As a substitute for bronze, showing a saving of.....	80 per cent.
" " lead " " .....	75 "
" " type metal " " .....	75 "
" " zinc " " .....	50 "
" " carved marble " " .....	50 "
" " materials used in capsuling bottles .....	70 "

These figures have also been practically borne out in using the metal for the following purposes:—

Joining of gas and water-pipes, jointing iron to stone and wood, jointing of glass to iron, roofing of houses, fixing pulleys to shaftings, filling in defective castings, vessels for containing acids, stereotyping and printing; construction and lining of cisterns, tanks, and pipes; protection of iron from rust, protection of wood from decay, protection of stone from decay; moulds for concrete and builders' engineers, and modellers' castings; tombstones, works of art, statuary, vases, mural decorations, picture frames, furniture, &c.; electrical appliances, protecting buildings from decay; the metal can be electro plated.

The advantages of the metal may be summarised as follows:—

- 1.—Its low melting point.
- 2.—Its resistance to atmospheric or aqueous influences.
- 3.—Its insensibility to the action of acids.
- 4.—Its close resemblance to the antique bronze.
- 5.—Its producing an exact impression of the mould, thus saving the labour of chasing.
- 6.—Its extreme lightness, being half the weight of most of the metals in use.
- 7.—Its cheapness.

Last year, on the recommendation of Mr. George Livesey, their engineer, the South Metropolitan Gas Company adopted the metal in the place of lead, with the following results, which doubtless will be increased this year: 35,840 lbs. of Spence's metal have done the work of 112,000 lbs. of lead. The company has saved £500 in cost of materials, independent of a saving of labour, which is estimated at 30 per cent.

Amongst the great number of purchasers of Spence's metal, amounting to over 3000 in England and 2500 in France, in the short space of twelve months may be enumerated:—

The British Government (four distinct departments), General Post Office, Bank of England, Metropolitan Board of Works, New River Company, South Metropolitan Gas Company, St. Paul's Cathedral, as well as 150 gas companies, corporations, engineers, &c.

The following testimonial has also been received:—

Metropolitan Board of Works, Engineer's Department, Crossness, Belvedere, August, 10, 1880.

Messrs. J. Berger Spence and Co.

GENTLEMEN,—In reply to your enquiries respecting your "patent

metal" used here, I have to inform you that under a most severe trial it has given great satisfaction.

I packed a large pump suction seating partly with it, part with lead run in and caulked, and part with flax gasket, caulked; each in competition with the other; after some months' trial I found your metal as sound as the first day run in, equal to the lead, and at about one-fourth its cost in material and labour.

It is a most trying test for any new article, as the cast-iron seating is 12 ft. in diameter, and has to stand the beat of 52 valves night and day on its face.—Yours truly,

(Signed) FRANK E. HOUGHTON.

Accompanying the prospectus will be found a large number of testimonials and opinions in favour of the metal from the Edinburgh and District Trust, the Chester Gas Company, the Oswestry Gas Company, the Perth Gas Company, the Torquay Gas Company, the Buxton Gas Company, the South London Crown Works, the Whitechapel Engine-works, Young's Paraffin Light and Mineral Oil Company, and a number of private individuals.

The selling price of the metal varies from £15 to £20 per ton, and at the lower figure Messrs. Johnson, Matthey, and Co., the celebrated assayers, have given the following certificate:—

Johnson, Matthey, and Co., Mining and Assay Offices, Hatton Garden, London, E.C., Feb. 1, 1881.

## [CERTIFICATE.]

We have visited the works at Belvedere, and have watched the operations of manufacturing Spence's metal under Mr. John Berger Spence's Letters Patent, No. 2706, sealed Jan. 3, 1880, carefully checking the ingredients used, the weights taken, the fuel and labour employed, the loss in the operation, and the cost of manipulation. We have also taken the average value of the raw materials, which have varied very little in price over a period of ten years, and the supplies of which are readily procurable and inexhaustible. With these data before us we can certify that the cost price of Spence's metal of the quality made in our presence, and stated to be that suitable for general purposes, under ordinary conditions of manufacture, upon a commercial scale in England, leaves a profit of 200 per cent. (two hundred per cent.) on the net selling price of £15 per ton.

(Signed) JOHNSON, MATTHEY, AND CO.

Taking the above certificate as a basis, and assuming that the company is able to sell only 100 tons per week, the gross profits would be £50,000 a year. This would be exclusive of the benefits to the shareholders, which may be secured by the sale or otherwise of the foreign patents.

The company will acquire, under an agreement with the Belvedere Guano Company, the lease of a piece of ground situate at Belvedere, on the Thames; Mr. J. B. Spence, the vendor, also undertakes to erect and put up for the company on this ground a manufactory, buildings, and machinery sufficient to enable them to turn out at least 100 tons per week of the metal, the whole to be completed and delivered over to the company within five months from the date of the agreement, and to be included in the purchase price hereinafter mentioned. The ground lease will be of sufficient extent to allow any increase or development of the company's works that may hereafter become necessary. Until the works are completed and handed over to the company the vendor will undertake to supply the company with the metal from his old works at cost price, so that they will be enabled to commence business immediately.

As soon as the company's works are completed the vendor will altogether cease from the manufacture of the metal. The patents for the United States and the colonies are not included in the sale;

but the company will have the right of manufacturing for the vendor any metal that he may require to be manufactured here for those countries, at a price remunerative to the company. The vendor is the promoter of the company, and has fixed the price to be paid for the business, works, and British and European patents, undertaking to indemnify the company against all preliminary expenses up to allotment. The consideration to be paid by the company is £66,000 in fully paid-up shares, and £14,000 in cash. The vendor would have accepted the whole of the purchase price in shares but for the rule of the Stock Exchange, which necessitates two-thirds of the capital being offered to the public for subscription.

The company on these conditions will become proprietors of the business, manufactory, machinery, patents, and premises, with the exclusive right to manufacture and sell the metal in the United Kingdom and in Europe, subject only as to Scotland to the next succeeding paragraph.

The right of selling the metal in Scotland has already been disposed of, but under a contract, dated the 21st day of February, 1880, and made between John Berger Spence, Charles Buller Granville Cole, James Louis Alexander Hope, and Heywood Smith, by which all metal so to be sold has to be taken from the vendor at a price affording a good profit, this contract will be transferred to the company.

The company having secured the services of the vendor for a period of five years as the managing director, at a remuneration, in addition to his ordinary fees as director, to be fixed by the board.

Negotiations are already on foot for the disposal of the rights in France, Belgium, Austria, and Italy, and the profits which may accrue on the completion of such negotiations will fall to be divided among the shareholders of the company.

The following contracts have been entered into:—

An agreement dated 31st March, 1881, between John Berger Spence of the one part and Francis Antoni Rey, a trustee on behalf of this company, of the other part.

An agreement dated 1st April, 1881, between John Berger Spence of the one part and James Milne of the other part.

Agreements for the establishment of agents for the sale of the metal have been entered into by Messrs. J. Berger Spence and Co. with the following firms and persons. The company will take over the benefit of these agreements:—

4th August, 17th August, 19th August, and 16th September, 1880.

—W. J. Mayger, Esq., Burton-on-Trent.

28th September, 1880.—Messrs. Courtney and Co., Dublin.

Same date.—Messrs. R. Patterson and Sons, Belfast.

6th October, 1880.—T. A. Greenhill, Esq., Madrid.

1st November, 1880.—Romain Talbot, Esq., Berlin.

4th November, 1880.—Messrs. Hutchinson Brothers, Barnsley.

30th November, 1880.—C. Wetter, Esq., Brixton.

8th December, 1880.—E. Blum, Esq., Zurich.

1st January, 1881.—Messrs. Firmin, Hill, and Co., London.

8th January and 26th February, 1881.—Messrs. Linney and Horobin, Bedford.

10th January and 14th February, 1881.—Messrs. E. Headly and Sons, Cambridge.

15th February, 1881.—Henry J. Newton, Bristol.

3rd March, 1881.—W. Farrer, Esq., Birmingham.

The Articles of Association and copies of the above agreements may be seen at the offices of Messrs. C. C. Ellis, Munday, and Co., the solicitors to the company.

Prospectuses and forms of application for shares may be had at the offices of the company, or of the solicitors, bankers, brokers, or auditors.



# NOBEL'S DYNAMITE



Manufactured and sold by  
**NOBEL'S EXPLOSIVES COMPANY (LIMITED), 149, West George Street, Glasgow.**

AGENTS EXPORT: J and G. THORNE, 85, GRACECHURCH STREET, LONDON, E.C.

FACTORIES--ARDEER WORKS, STEVENSTON, Ayrshire.

WESTQUARTER WORKS, POLMONT STATION, STIRLINGSHIRE.

## THE COTTON POWDER COMPANY (LIMITED)

RECOMMEND TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, THEIR

### TONITE, OR COTTON POWDER,

AS BEING THE SAFEST, CHEAPEST, AND STRONGEST OF ALL EXPLOSIVES.

TONITE is the most efficient and economical blasting agent ever invented, and is largely in demand. It does not contain any Nitro-glycerine, and is, therefore, exempt from the dangers of exudation, or of freezing and its attendant process of thawing.

The Company also manufacture PATENT DETONATORS of a quality much superior to the foreign article. The trade supplied on favourable terms.

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WORKS: FAVERSHAM, KENT.

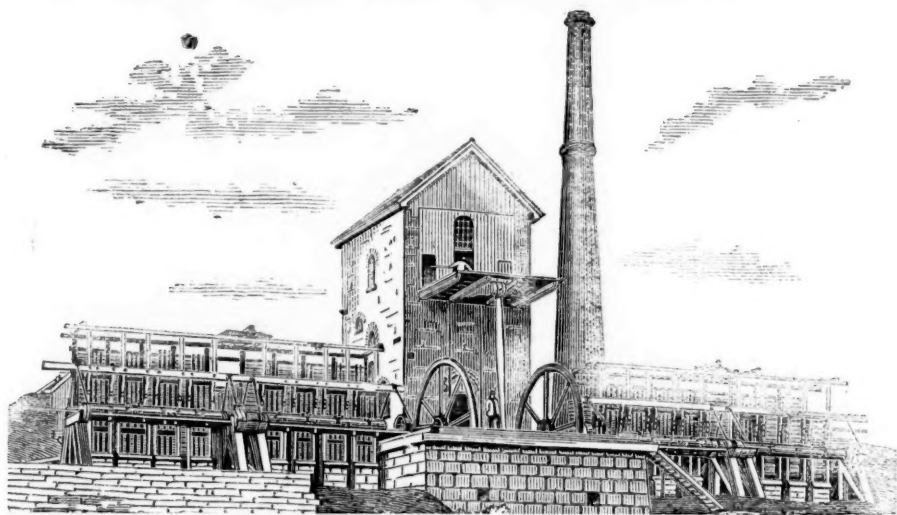
Agents DINEEN, SON, and Co., Leeds; DAVID BURNS, Halthwhistle; R. J. CUNNACK, Helston, Cornwall; J. and W. SMITH, Chapel-en-le-Frith; W. VEITCH, Jedburgh, N.B.; W. HARRISON, Barrow-in-Furness.

## THE TUCKINGMILL FOUNDRY COMPANY,

(TUCKINGMILL FOUNDRY AND ROSEWORTHY HAMMER MILLS),

CAMBORNE, CORNWALL,

Engineers, Iron and Brass Founders, &c.



REGISTERED TRADE MARK.

MANUFACTURERS OF EVERY DESCRIPTION OF

REGISTERED TRADE MARK.



**PUMPING, WINDING, AND STAMPING ENGINES**

ALL KINDS OF

**MINING MACHINERY, SHOVELS, AND MINERS' TOOLS;**

ALSO OF

**BLAKE'S STONE BREAKERS.**

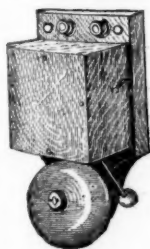
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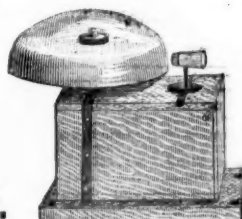
AND OTHER TELEGRAPHIC APPARATUS FOR MINES, &c.



Prize Medal - - - London, 1862.  
 First Prize - - - Sydney, 1879.  
 Prize Medal - - - Melbourne, 1881.

PRICE LIST POST FREE, ON APPLICATION.

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For Excellence  
 and Practical Success  
 of Engines.



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**HARVEY AND CO.,**  
 ENGINEERS AND GENERAL MERCHANTS  
 HAYLE, CORNWALL

LONDON OFFICE--186, GRESHAM HOUSE, E.C.

MANUFACTURERS OF

PUMPING and other LAND ENGINES and MARINE STEAM ENGINE of the largest and most approved kinds in use, SUGAR MACHINERY MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.

SHIPBUILDERS IN WOOD AND IRON

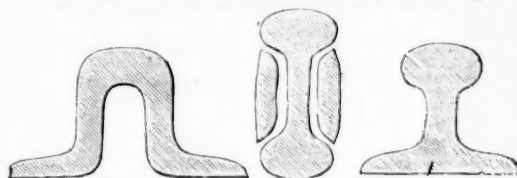
MANUFACTURERS OF

HUSBAND'S PATENT PNEUMATIC STAMPS

SECOND-HAND MINING MACHINERY FOR SALE, IN GOOD CONDITION, AT MODERATE PRICES--VIZ

PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES; STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of various sizes and descriptions; and all kinds of MATERIALS required for MINING PURPOSES.

**JOHN BEATSON AND SON,**  
 40h, St. Mary's Gate, Derby.



IRON AND STEEL RAILS, of all sections, from 10 to 86 lbs. per yard, new perfect, new slightly defective, or second-hand, with Fish plates Bolts and Nuts, Chairs, Spikes, and Points and Crossings to match, when required.

STEEL AND IRON WIRE ROPES, LOCOMOTIVE ENGINES, &c., &c.

STEEL OF ALL KINDS. PIG IRON OF ALL KINDS Delivered at all Railway Stations and Ports in Great Britain.

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3939 Blue Hills, s. St. Agnes	4 6	8 3/4	3 3/4	3 3/4	0 2	0 2
10000 Caron, t. Cardigan	2 6	0 2	1 2	0 4	0 0	0 0
10000 Carn Brea, s. t. Hlogant	56 7	6 132	132 134	309 13	0 1	0 1
12423 Devon Gr. Consols, s. t. Tavistock	1 0	0 12 1/2	12 12 1/2	113 7	0 0	0 0
4296 Dolcoath, s. t. Camborne	10 14	10 56 1/2	55 1/2	120 11	3 1	0 0
30000 East Craven Moor, s. t. Pateley Bdg.	1 0	0 1	1 1	0 0	0 0	0 0
6400 East Pool, t. s. t. Hlogant	0 9	9 38 1/2	35 1/2	22 17	9 1	0 0
12500 Frongoch, s. t. Cardigan (1000 sh. iss.)	2 0	0 4 1/2	4 1/2	0 4	0 0	0 0
4 000 Glasg. Car. s. t. (3000 sh. iss., 10000 pd.)	1 1/2	1 1/2	1 1/2	0 5	0 0	0 0
5000 Gorse and Merlyn Cons., t. Flint	2 10	0 18	3 1/2	0 5	0 0	0 0
15000 Great Laxey, t. Isle of Man	4 0	0 18	17 18	27 0	0 0	0 0
6400 Green Hurl, t. Durham	0 6	0 7 1/2	7 1/2	2 16	0 4	0 0
20000 Grogion, t. Cardigan	2 0	0 3	2 1/2	0 16	4 0	0 0
10240 Gunnislake (Chiters), t. s. t.	2 2	0 4 1/2	4 1/2	0 15	9 0	0 0
28000 Isle of Man, t. Isle of Man	25 0	0 0	0 0	83 5	0 1	0 0
20000 Leadhills, t. s. t. Llanarthur	6 0	0 2 1/2	2 1/2	0 15	0 0	0 0
4000 Lisburne, s. t. Cardigan	18 15	0 0	0 0	605 10	0 1	0 0
10000 Mellanar, s. t. Hayle	2 0	0 5 1/2	5 1/2	1 3	0 2	0 0
90000 Minera Mining Co., t. Wrexham	5 0	0 10	9 1/2	0 59	0 0	0 0
20000 Mining Co. of Ireland, s. t. s. t.	5 0	0 3 1/2	2 1/2	24 0	0 0	0 0
80000 Mon, s. t. Anglesea	5 0	0 12 1/2	12 1/2	0 10	0 0	0 0
5328 North Bux, s. t. Blackwater	9 10	8 1/2	3 1/2	0 3 4	0 0	0 0
11829 North Hendre, t. Wales	2 10	0 0 1/2	4 5	0 3 10	0 0	0 0
8146 Ditto	1 5	0 3 1/2	2 1/2	0 7	0 0	0 0
20000 North Levant, s. t. St. Just	13 6	0 8	5 6	4 16	0 0	0 0
5000 Penhalls, t. s. t. Agnes	3 17	6 2	1 1/2	3 17	0 0	0 0
6000 Pennant, t. s. t. North Wales	5 0	0 5	4 1/2	0 10	0 0	0 0
12000 Phoenix United, t. s. t. Link	5 10	3 3 1/2	3 1/2	2 2	0 0	0 0
18000 Red Rock, s. t. s. t. (12000 pd. 10 p.c.)	1 0	0 0	0 0	0 18	0 0	0 0
10000 Rhyall, t. s. t. Cardigan	2 0	0 2	1 1/2	0 4	0 0	0 0
12000 Rhyall, t. s. t. Wales	10 0	0 14	13 13 1/2	0 5	0 0	0 0
512 South Cardigan, s. t. s. t.	1 5	0 65	55 60	749 0	0 1	0 0
6123 South Cudrow, t. s. t. Camborne	6 5	6 9 1/2	9 1/2	8 2	0 0	0 0
9000 South Daren, t. Cardigan	1 16	0 2	1 1/2	0 4	0 0	0 0
4500 South West Franch, t. Hlogant	7 12	4 10 1/2	10 1/2	40 15	6 10	0 0
110000 Tankerville Gr. Consols, t. Salop	1 0	0 0	0 0	0 16	3 0	0 0
6000 Tintore, s. t. Pool, Hlogant	11 10	0 19 1/2	18 1/2	50 8	0 5	0 0
15000 Van, t. Llanidloes	4 5	0 11	9 10	25 3	0 0	0 0
30000 West Chiverton, t. s. t. Penryn	20 12	6 3 1/2	3 1/2	55 10	0 10	0 0
512 West Tolgus, s. t. Redruth	95 10	0 35	30 35	3 1	0 0	0 0
12000 West Walsall, s. t. Camborne	26 10	0 23	22 23	27 0	0 0	0 0
12000 West Walsall, s. t. Hlogant	7 4	0 15 1/2	14 1/2	0 10	0 0	0 0
12000 Wheel Crebor, t. Tavistock	2 4	0 4 1/2	4 1/2	0 10	3 0	0 0
10240 Wheel Eliza Consols, t. St. Austell	18 0	0 0	0 0	42 10	0 8	0 0
6000 Wheel Grenville, t. Camborne	15 0	0 9	8 1/2	0 7	0 0	0 0
4296 Wheel Killy, t. St. Agnes	5 4	6 2 1/2	2 1/2	12 18	6 0	0 0
30000 Wheel Pevor, t. Redruth	7 11	0 19	17 18	7 18	6 0	0 0

## FOREIGN DIVIDEND MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500 Alamillos, t. Spain	2 0	0 1 1/2	1 1/2	2 2	9 0	0 9
130000 Almaden, t. Spain	1 0	0 0	0 0	0 6	3 0	0 2
20000 Australasian, s. t. South Australia	7 7	6 2 1/2	1 1/2	0 16	0 0	0 0
15000 B. Ryder, s. t. California	4 0	0 2	1 1/2	0 16	0 0	0 0
20000 Cape Copper Mining, s. t. South Africa	7 0	0 43	41 43	41 7	6 0	0 1
35000 Cesena Sulph. Co., Romagna, Italy	10 0	0 0	0 0	1 1	0 0	0 0
50000 Copiapo, s. t. Chile (24 shares)	3 8	0 2 1/2	2 1/2	1 12	9 0	0 1
23500 Eberhardt and Aurora, s. Nevada	10 0	0 3 1/2	3 1/2	1 8	0 0	0 0
70000 English & Australian, s. t. S. Aust.	2 10	0 1 1/2	1 1/2	2 18	9 0	0 1
20000 Fortuna, t. Spain	2 0	0 5	4 1/2	7 17	2 0	0 9
60000 Frontino & Bolivia, s. t. New Gran.	2 0	0 5	4 1/2	0 8	0 0	0 0
200000 La Plata, s. t. Leadville	2 0	0 1 1/2	1 1/2	0 6	0 0	0 0
15000 Linars, t. Spain	3 0	0 1 1/2	1 1/2	18 14	0 0	0 0
60000 New Quebec, s. t. Venezuela	5 0	0 6	5 1/2	0 2	6 0	0 2
10000 Ditto, Debutures	10 0	0 98	95 98	0 6	per cent.	0 0
30000 Oregon, s. t. Oregon, U.S. (pref. sh.)	4 0	0 0	0 0	0 2	6 0	0 2
50000 Pamplico, s. t. Chile	4 0	0 6 1/2	6 1/2	0 2	6 0	0 2
20000 Pitagora, s. t. Brazil (in 6000 £1 pd.)	0 10	0 0	0 0	0 1	0 0	0 0
10000 Pontgibaud, s. t. France	20 0	0 17	15 17	23 17	6 0	0 7
100000 Port Phillip, s. t. Clunes (22 shares)	1 0	0 5 1/2	5 1/2	1 14	2 0	0 10
40000 Richmond Consol, s. t. Nevada	5 0	0 13	17 13 1/2	10 11	6 0	0 10
115880 Rio Tinto, s. t. s. t. Comp. Bds. (10000 sh.)	0 10	0 101	99 101	5	per cent.	0 0
225000 Ditto, shares	10 0	0 24	23 24	0 10	9 0	0 2
40000 Santa Barbara, s. t. California	0 10	0 2	1 1/2	0 10	9 0	0 2
120000 Scottish-Australian Mining Co., s. t.	1 0	0 2 1/2	2 1/2	15	per cent.	0 0
80000 Ditto, shares	0 10	0 1 1/2	1 1/2	15	per cent.	0 0
50000 Sentein, s. t. s. t. Arriege, France	1 0	0 1 1/2	1 1/2	0 2	0 0	0 0
22500 Sierra Mifles, s. t. California	2 0	0 1 1/2	1 1/2	2 1	0 0	0 0
40625 Ditto, Plumas Eureka	2 0	0 3	2 1/2	2 10	0 0	0 0
253000 St. John del Rey (45 Stock and multiples dealt in)	260 270	0 5	p.c. for half-year, Dec.	0 0	0 0	0 0
20000 Tolima, s. t. s. t. Colombia	5 0	0 0	0 0	1 6	6 0	4 9
15000 Victoria (London), s. t. Australia	1 0	0 0	0 0	0 13	10 0	0 8
25000 Western Andes, s. t. Colombia	1 0	0 0	0 0	0 13	10 0	0 8
2100 W. Prussian (5500 pref. sh. £10 pd.)	10 0	0 10 1/2	10 10 1/2	4 2	0 0	0 8

\* Have made calls since last dividend was paid.

## NON-DIVIDEND BRITISH MINES.

Shares.	Paid.	Last wk.	Clos. pr.
30000 Alston United, s. t. s. t. Cumberland	1 0	0 0	0 0
12000 Asheton, t. Carnarvonshire	5 0	0 0	0 0
10000 Atlantic, s. t. s. t. (res. shares 28,000)	1 0	0 0	0 0
35000 Basset & Buller Cons., s. t. s. t. Hlogant	1 0	0 0	0 0
11583 Bedford Unit, s. t. s. t. (21 sh. iss.)	0 8	0 0	0 0
25000 Belovda, s. t. s. t. Cardigan	1 0	0 0	0 0
30000 Bodidris, s. t. s. t. Denbighshire	1 0	0 0	0 0
10000 British, s. t. s. t. Wrexham	2 0	0 0	0 0
20000 Bwch United, t. Cardigan	0 17	6 3 1/2	2 1/2
50000 Cambrian, s. t. s. t. Cardigan	2 0	0 2	0 2
6000 Carn Camborne, t. s. t. Camborne	0 8	0 0	0 0
20000 Carnarvon, s. t. s. t. Carnarvonshire	1 0	0 0	0 0
6000 Cathedral Cons., s. t. s. t. Gwent	0 5	0 0	0 0
20000 Central Foxdale, t. s. t. of Man (21 sh.)	1 17	6 0	0 0
25000 Coed-y-Fedw & Pant-y-Buarth, t. Mold	2 0	0 0	0 0
2450 Cook's Kitchen, t. Hlogant	29 14	9 12 1/2	11 12 1/2
15500 Court Grange United, s. t. s. t.	1 0	0 0	0 0
6400 Crook Burn, t. s. t. Cumberland	0 10	0 0	0 0
14000 Crosswood Mining Lands, t. s. t.	1 0	0 0	0 0
20000 Deep Level, t. Flintshire	1 0	0 0	0 0
1536 D'Eresby Mountain, t. s. t. Llanrwst	20 0	0 50	40 50
20000 Denbighshire Consolidated, s. t. s. t.	3 0	0 0	0 0
12000 Derwent, s. t. s. t. Durham	4 0	0 0	0 0
100000 Devon, s. t. s. t. Tavistock (151652 iss.)	0 1	0 13 1/2	13 1/2
20000 Devonian, s. t. s. t. Tavistock	1 0	0 0	0 0
20000 Devon Great United (21 shares)	1 0	0 0	0 0
20000 Devonshire, s. t. s. t. Lydford	1 0	0 0	0 0
10000 Dobby Syke, t. s. t. Durham	0 19	6 3 1/2	3 1/2
6000 East Botallack, t. s. t. St. Just	0 4	0 0	0 0
6144 East Caradon, s. t. St. Just	3 14	6 1 1/2	1 1/2
4000 East Chiverton, t. s. t. Penryn	9 19	9 2 1/2	1 1/2
12000 East Crebor, s. t. Tavistock	0 10	0 0	0 0
15000 East Devon Cons., s. t. s. t. Buckfastleigh	2 0	0 0	0 0
12000 East Herodotus, s. t. s. t. Liskeard	0 0	0 0	0 0
20000 East Long Rock, s. t. s. t. Wales	0 15	0 0	0 0
21000 East Roman Gravel, s. t. s. t. Salop	0 15	0 0	0 0
18000 East Van, t. Llanidloes	5 0	0 0	0 0
4096 East Wheel Buller, t. s. t. Gwent	0 10	0 0	0 0
2096 East Wheel Lovell, t. s. t. Helston	14 3	6 4 1/2	3 1/2
100000 East Wheel Rose, s. t. s. t. Newlyn East	1 0	0 0	0 0
10000 Fortescue (Stannary), s. t. s. t.	1 0	0 0	0 0
12000 Gawton, s. t. s. t. Tavistock (21 shares)	1 14	0 0	0 0
14000 Glenroy, s. t. s. t. Isle of Man	4 0	0 0	0 0
30000 Gobbett, s. t. s. t. Dartmoor	1 0	0 0	0 0
10000 Gowan, s. t. s. t. Carnarvon	1 0	0 0	0 0
25000 Gower, s. t. s. t. St. Just	1 0	0 0	0 0
10000 Gower Consols, s. t. s. t. St. Austell	1 0	0 0	0 0
20000 Great Dyffke (10000 sh. issued)	1 0	0 0	0 0
12000 Great Holway, s. t. s. t. Flintshire	5 0	0 0	0 0
6000 Great West Chiverton, t. s. t. St. Agnes	0 5	0 0	0 0
10000 Gwyn-y-Mynydd, s. t. s. t. Flintshire	4 0	0 0	0 0
7000 Gwydyr Amal, s. t. s. t. Carnarvon	1 0	0 0	0 0
6144 Harwood, t. s. t. Durham	0 15	0 0	0 0
12000 Herodotus, t. s. t. near Liskeard	0 8	0 0	0 0
10000 Kingston, s. t. s. t. Cardigan	0 11	0 0	0 0
15000 Indian Queens Cons., s. t. St. Columb	1 0	0 0	0 0
20000 Kirkcubright, t. s. t. (20000 unissued)	1 0	0 0	0 0
6000 Killbreth, t. s. t. Chacewater	3 15	0 0	0 0
25000 Kit Hill Gr. Cons., s. t. s. t. (21 sh.)	0 15	0 0	0 0
15000 Lady Ann, s. t. s. t. Llanarmon	1 0	0 0	0 0
30000 Lady Ashburton, s. t. s. t. Callington	1 0	0 0	0 0
10000 Lady Verba, s. t. s. t. Tavistock	0 17	6 0	0 0
12000 Ladywell, s. t. s. t. Salop (12000 pref. also)	2 10	0 0	0 0
5000 Lead Era, t. s. t. Mold	2 10	0 0	0 0
25000 Llandegw, s. t. s. t. Wales	11 0	0 0	0 0
10000 Llanidloes, s. t. s. t. Wales	1 0	0 0	0 0
5120 Lovell, t. s. t. Wendron	0 16	0 0	0 0
9000 Marke Valley, s. t. s. t. Linkinhorne	5 16	6 1 1/2	1 1/2
18000 Mawston, t. s. t. South Wales	1 0	0 0	0 0
6000 Medlyn Moor, t. s. t. Wendron	3 15	10 0	0 0
28000 Mid-Devon, s. t. s. t. (17000, 3d. pd.)	0 6	8 0	0 0
15000 Monkstoun, s. t. s. t. Devon	2 0	0 0	0 0
20000 Mostyn Consols, s. t. s. t. Flint	1 0	0 0	0 0
10000 Mynyddorddu, s. t. s. t. Cardigan	0 12	6 0	0 0
25000 Mynydd Firth (18000 issued)	2 0	0 0	0 0
12000 Morla Du, s. t. s. t. Anglessea	1 0	0 0	0 0
6144 Mount Carbis, t. s. t. Redruth	1 0	0 0	0 0
2400 New Cook's Kitchen, t. s. t. Hlogant	7 14	0 7 1/2	6 6 1/2
8000 New Dolcoath, s. t. s. t. Camborne	3 0	0 0	0 0
10000 New Holmbush, s. t. s. t. Callington	2 0	0 0	0 0
6000 New Killy, t. s. t. St. Agnes	0 5	6 1 1/2	1 1/2
12000 New Penrose, s. t. s. t. Helston (14 sh.)	0 10	0 0	0 0
3500 New Penrose, s. t. s. t. Helston	6 0	0 0	0 0
2000 New Penrose, t. s. t. Helston	10 0	0 0	0 0
12000 New West Caradon, s. t. s. t. Liskeard	0 1	3 0	3 0

## NON-DIVIDEND MINES—continued.

Shares.	Paid.	Last wk.	Clos. pr.
3000 New Wheel Pevor, t, Redruth .....	0 10	0 0	2½-1½ 2½
36000 New Wye Valley, t, Montgomery.*	1 0	0 0	1½-1½ 1½
20000 North Alfred, c, Phillack .....	0 10	0 0	1½-1½ 1½
10000 N. D'Eresby Mount, s, t, bl, Carnarv.	1 0	0 0	1½-1½ 1½
12000 North Herodsfoot, t, Liskeard .....	0 6	0 0	¾-¾ ¾
50000 North Molton, c, m, t, Devon .....	1 0	0 0	1½-1½ 1½
6000 North Penstruthal, c, Gwentnap .....	1 0	0 0	1½-1½ 1½
2936 North Trekerby, c, St. Agnes .....	8 17	10 0	1½-1½ 1½
8000 Northern, s, t, Durham .....	1 0	0 0	1½-1½ 1½
40000 Okel Tor, s, t, c, s, Calstock .....	1 0	0 0	1½-1½ 1½
12000 Pandora, s, t, Carnarvon .....	2 0	0 0	1½-1½ 1½
11612 Pant-y-Mwyn, s, t, Mold .....	2 0	0 0	2½-1½ 2½
20000 Parka Mines Consols, s, t, St. Columb .....	1 0	0 0	2½-1½ 2½
50000 Parys Corporation, s, c, Anglesea .....	1 0	0 0	2½-1½ 2½
7500 Pateley Bridge, t, Yorkshire .....	1 0	0 0	¾-¾ ¾
15000 Ditto (also 7500 sh. not issued) .....	0 19	0 0	¾-¾ ¾
6000 Pein-an-dred, t, Redruth .....	1 5	0 0	¾-¾ ¾
6000 Penarctus United, s, c, Gwentnap .....	0 30	0 0	¾-¾ ¾
12000 Pen-yr-Ore-dell, s, t, Flintshire .....	1 0	0 0	¾-¾ ¾
15000 Perran Consols, s, t, s, l .....	1 0	0 0	1½-1½ 1½
10000 Pioneer, s, var. Wales .....	1 0	0 0	1½-1½ 1½
10000 Polrose, t, Cornwall .....	0 11	0 0	1 1 ¾ 1
10000 Port Nigel, s, t, Carnarvonshire .....	2 0	0 0	2 2 1 1
12000 Prince of Wales, c, s, Calstock .....	0 10	0 0	¾-¾ ¾
30000 Silver Hill, s, Callington .....	1 0	0 0	1½-1½ 1½
40000 Sortridge, s, c, Horrabridge .....	1 0	0 0	1½-1½ 1½
50000 So. Cambrian, s, t, Cardiganshire .....	1 0	0 0	1½-1½ 1½
30000 South D'Eresby Mountain, s, t .....	1 0	0 0	1½-1½ 1½
35000 South Devon, s, t, s, t, High .....	1 0	0 0	1½-1½ 1½
6000 South Penstruthal, c, Gwentnap .....	1 0	0 0	¾-¾ ¾
6000 South Roskear, t, c, Camborne .....	8 5	0 0	¾-¾ ¾
6000 South Tolkarne, t, c, Camborne .....	4 4	0 0	1½-1½ 1½
40000 South Wheel Crebors, c, Tavistock .....	1 0	0 0	2 2 1½ 1½
2043 South Wheel Crofty, c, Illogan .....	18 7	0 0	9½-9 9½
4000 St. Just United, Cornwall .....	2 10	0 0	— — —
30000 Tal-y-bont, s, c, Cardiganshire .....	1 0	0 0	— — —
4000 Tarnar, s, t, Bearslaw .....	1 0	0 0	1½-1½ 1½
6400 Teesdale, t, Durham (pref.) .....	1 0	0 0	¾-¾ ¾
2000 Tin Hill, s, t, s, t, Stephens .....	1 0	0 0	2½-2½ 2½
10000 Topley, t, Callington .....	1 0	0 0	1½-1½ 1½
5000 Treleigh Wood, t, Redruth .....	6 1	0 0	¾-¾ ¾
12000 Trevice Consols, t, c, Gwentnap .....	0 5	0 0	1½-1½ 1½
6000 Trugo, c, St. Columb .....	0 8	0 0	1½-1½ 1½
640 Truro, s, t, Nerquis, Flintshire .....	10 0	0 0	— — —
10000 Tyn-y-Fron, s, t, Cardiganshire .....	1 0	0 0	1½-1½ 1½
11000 Un. Van & Glyn, s, t, (& 41500 other sh.)	2 0	0 0	¾-¾ ¾
10000 Vaughan, s, t, Cardiganshire .....	10 0	0 0	— — —
10000 Victor, s, t, Cilceen, Flintshire .....	0 11	0 0	— — —
20000 Walkham United, s, t, c, Tavistock .....	1 0	0 0	1½-1½ 1½
12000 West Assheton, t, c, Tavistock .....	1 0	0 0	1½-1½ 1½
3000 West Barrow, c, St. Agnes .....	0 5	0 0	1½-1½ 1½
3000 W. Craven Moor, t, Pateley Bridge .....	10 0	0 0	1½-1½ 1½
12000 West Crebor, c, Tavistock .....	0 5	0 0	¾-¾ ¾
10240 West Devon Consols, c, Calstock .....	1 0	0 0	1½-1½ 1½
10000 West Godolphin, t, c, Breage .....	0 10	0 0	2½-2½ 2½
12000 West Holway, s, t, Flintshire .....	1 0	0 0	2 2 1½ 2
6000 West Killyt, t, St. Agnes .....	0 12	0 0	¾-¾ ¾
20000 W. Lisburne, s, t, (12 sh.) Cardigan .....	1 0	0 0	1½-1½ 1½
3000 West of Wales, t, Menheniot .....	1 5	0 0	1½-1½ 1½
12000 West Pateley Bridge, c, Cardiganshire .....	1 0	0 0	1½-1½ 1½
12000 West Phoenix, t, c, Cardigan .....	0 6	0 0	1½-1½ 1½
6000 West Polbreen, s, t, c, St. Agnes .....	0 2	0 0	1½-1½ 1½
5190 West Polrice, St. Day .....	5 5	0 0	4½-4½ 4½
10000 West Vor, s, t, Helston .....	2 0	0 0	2 2 1½ 2
2048 West Wheel Frances, t, Illogan .....	29 6	3 13	11 11 12
3000 West Wheel Pevor, t, Redruth .....	2 0	6 18½	15½-15½ 15½
12000 West Wye Valley, s, t, Montgomery .....	3 0	0 0	¾-¾ ¾
6000 Wheel Agar, c, Illogan .....	14 6	0 0	10½-10½ 10½
6144 Wheel Baginbun, t, Illogan .....	0 18	0 0	5½-5½ 5½
3000 Wheel Boys, t, Redruth .....	0 18	0 0	1½-1½ 1½
12000 Wheel Coates United, s, t, St. Agnes .....	0 15	0 0	1½-1½ 1½
2535 W. Comf., & No. Tres., t, c, Gwentnap .....	2 2	0 0	¾-¾ ¾
15000 Wheel George, s, t, bl, Carnarvon .....	1 0	0 0	2 2 1½ 1½
12288 Wheel Jane, t, Kea .....	1 5	8 ¾	¾-¾ ¾
12000 Wheel Jewell, c, St. Hilary .....	0 11	0 0	¾-¾ ¾
25000 Wh. Honey and Trevelyan, s, t, Lisk .....	2 0	0 0	2½-2½ 2½
12000 Wheel Looe, t, Callington .....	0 1	0 0	¾-¾ ¾
6000 Wheel Owles, t, St. Just .....	7 3	0 0	1½-1½ 1½
6000 Wh. Prussia, & Cardrew, t, Rd. .....	1 10	0 0	1½-1½ 1½
12000 Wheel Russell, c, Tavistock .....	2 1	6 0	— — —
6000 Wheel Sisters, t, Lelant .....	3 0	0 0	2 2 1½ 2
4096 Wheel Uny, s, t, c, Redruth .....	15 16	0 0	3 3 2½ 2½
4000 Ystwith, t, Cardigan .....	1 0	0 0	1½-1½ 1½

bl, blende; c, copper; g, gold; l, lead; s, silver; sl, slate; s, sl, silver-lead; t, tin; z, zinc; i, iron; a, arsenic.

\* Limited Liability Companies; † quoted on the Stock Exchange;

‡ I have paid dividends.